

DOCUMENT RESUME

ED 414 457

CE 075 376

TITLE Multi-Competency Health Technologies.
INSTITUTION Columbus State Community Coll., OH.
PUB DATE 1996-00-00
NOTE 499p.; Product of the Heart of Ohio Tech Prep Consortium.
For related documents, see CE 074 822 and CE 075 373-377.
PUB TYPE Guides - Classroom - Teacher (052)
EDRS PRICE MF02/PC20 Plus Postage.
DESCRIPTORS Academic Education; Advisory Committees; *Allied Health
Occupations Education; *Articulation (Education);
Competence; *Competency Based Education; Consortia; Core
Curriculum; Curriculum Guides; Employment Opportunities;
Employment Projections; Grade 11; Grade 12; *Health
Personnel; High Schools; Information Management; Labor
Market; Medical Assistants; Models; Nursing; Teaching
Guides; *Tech Prep; Technical Institutes; Technical
Occupations; Two Year Colleges
IDENTIFIERS Curriculum Mapping; South Western City Schools OH

ABSTRACT

This document contains materials developed for and about the multicompetencies health technologies tech prep program of the South-Western City Schools in Ohio. Part 1 begins with a map of the program, which begins with a health technologies core in grades 11 and 12 that leads to entry-level employment or one of four 2-year programs at a community college (medical assisting technology, multicompetency health technology, nursing technology, and health information management technology) that in turn lead to a technical career or transfer to a four-year college or university. Also included in part 1 are the secondary and postsecondary curriculum for a vocational school and two high schools and a community college. Part 2, which constitutes approximately 50% of the document, lists the program's (unleveled) secondary technical and academic competencies. In part 3, the secondary competencies are leveled for a vocational school, and in part 4, the postsecondary competencies are leveled for a community college. Parts 5-7 contain the following: labor market data; list of advisory/review committee members; and program application (information on employment opportunities in the area, potential exit occupations for the program, and plans for the program's delivery). (MN)

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HEART of OHIO TECH PREP CONSORTIUM

Multi-Competency Health Technologies

Approved, Consortium Board of Directors, 1996

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- Secondary & Postsecondary Curriculum Pathways & Narratives
- Secondary Academic Competencies - Unleveled
- Secondary Competencies - Leveled per School
- Postsecondary Competencies
- Labor Market Data
- Advisory/Review Committee Members
- Program Application

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MULTI-COMPETENCY HEALTH TECHNOLOGIES

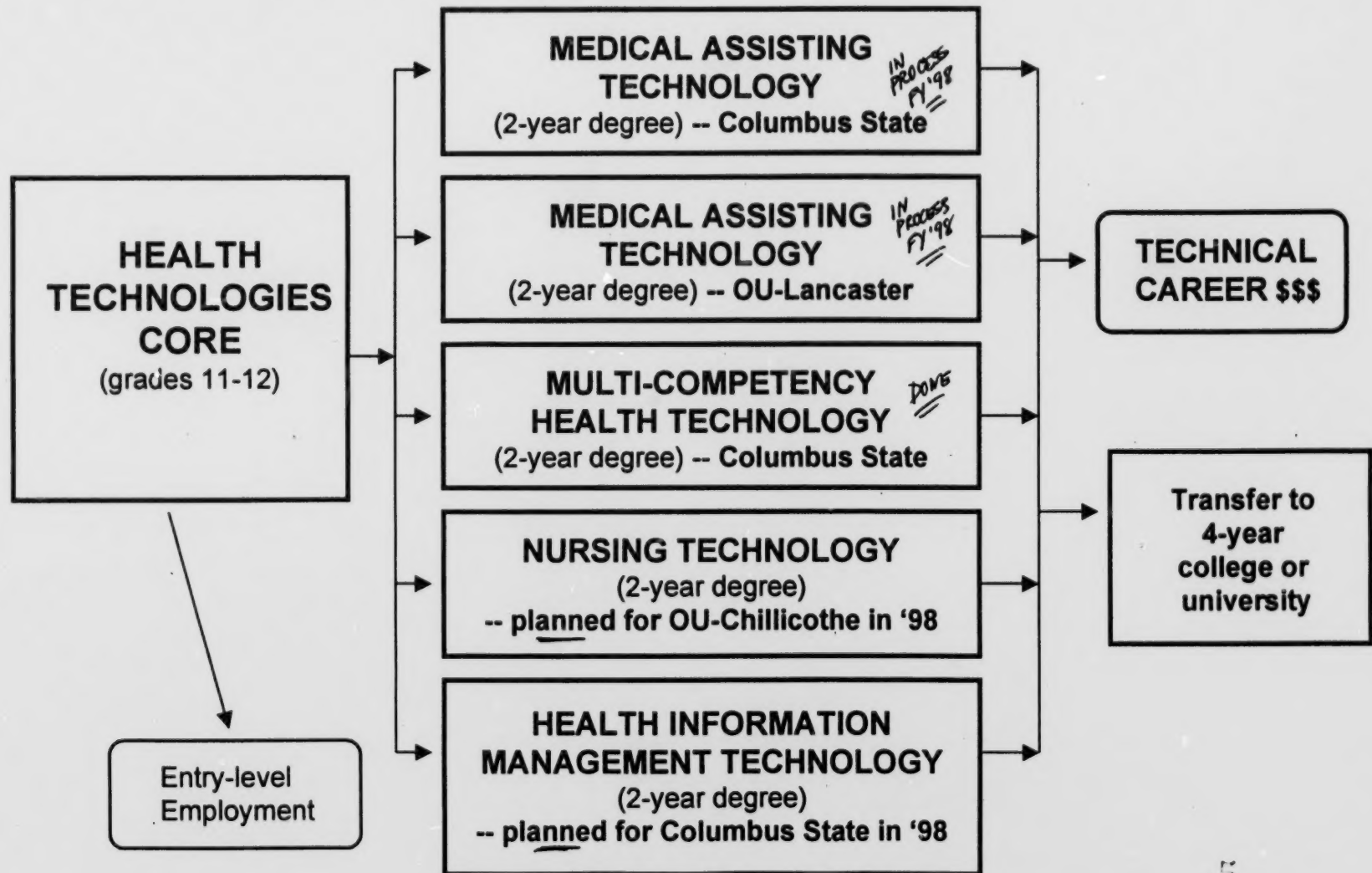
Heart of Ohio Tech Prep Consortium

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Heart of Ohio Tech Prep Consortium
MAP of MULTI-COMPETENCY HEALTH TECHNOLOGIES Tech Prep Program (12/97)



HEART of OHIO TECH PREP CONSORTIUM

1996

Multi-Competency Health Technologies Model

PART I.A: Secondary Curriculum Pathways and Narratives

Central Ohio Tech Prep Consortium

9th Grade	Min	10th Grade	Min	11th Grade	Min	12th Grade	Min
				Tech Comm 11	40	World Culture/ Global Problems	40
				Anatomy & Physiology	40		
				American Culture/ Government	40	Analytical Algebra IV	40
				Analytical Algebra III	40	Tech Comm 12	40
				Tech Prep Lab	100- 150	*Tech Prep Lab	100- 150
PREREQUISITES FOR GRADE 11 OF TECH PREP: Demonstrate potential for college preparatory course work as measured by a standardized achievement test and by being enrolled in a college preparatory curriculum with no academic deficiencies for grades 9 and 10, Algebra I, and Word Processing.				PREREQUISITES FOR COLLEGE PORTION OF TECH PREP: Enrollment in 11th and 12th grade Tech Prep academic and technical course work or college preparatory course work. Articulation or proficiency testing will determine where students place into the program.			
SUGGESTED ELECTIVES: Foreign Language (Grades 9 & 10) Tech Prep Physics (Grade 12) Computer Literacy (Grades 9 & 10)				EXPLANATION OF TECH PREP BLOCKS: 11th Grade: Tech Prep occupational competencies taught in 100 - 150 minute lab (flexible block scheduling allows instruction to dictate length of lab period). *12th Grade: Occupational competencies developed through participation in school-based learning; worksite-based internships, mentorships; and/or enrollment in post-secondary options.			

HIGH SCHOOL EXIT OCCUPATIONS:

Nurse Assistant, Home Health Aide, and Ward Clerk

COLLEGE EXIT OCCUPATIONS:

Multi-Competent Health Technician, Patient Care Technician, Histology Technician, Medical Transcriptionist, Phlebotomy Technician, Nurse Aide, Home Health Aide, Home Care Manager, EKG Technician, EMT/Paramedic.

**FAIRFIELD CAREER CENTER
EASTLAND VOCATIONAL SCHOOL DISTRICT
MULTI-COMPETENCY HEALTH TECHNOLOGIES**

Competency Outline

ACADEMIC COURSES

**CSCC
ARTICULATION**

JUNIOR YEAR

Communications (competencies target preparing students to place into English III)
Analytical Algebra III
Social Studies (American Culture/Government)
Biology (competencies identified for Bio 101 - Anatomy & Physiology) - Students are also expected to demonstrate competencies identified for Bio 100 before completing this program
Sign Language - OPTIONAL

SENIOR YEAR

Communications (competencies target preparing students to place into English 111)
Analytical Algebra IV (competency based course work preparing students to place into math 148)
Social Studies (World Culture/Global Problems)
Chemistry (competencies identified for Chem 100)
Sign Language - OPTIONAL

ITT 101

VOCATIONAL/TECHNICAL COURSES

**JUNIOR CORE
CURRICULUM PATHWAY**

**CSCC MULTI
HEALTH TECH
PATHWAY**

ASSESSMENT

All Year

Medical Terminology

Employability Skills
Insurance

Mult 101

Dean Vaughn
Medical Test

Qtr 1

Career Exploration, Medical Law &
Ethics, Quality Control

Qtr 2

Safety & Infection Control

Infection Control & Hazards Management

HIV/AIDS (Red Cross Curriculum)

Mult 171

American Red
Cross Certification

Qtr 3

First Aid, CPR, and Medical
Emergencies

Mult 102
Mult 103

American Red
Cross & Heart
Association
Certification

Qtr 4

NATP - Nurse Aid Training
Program

Mult 120

State Test

**SENIOR ELECTIVE
CURRICULUM OPTIONS**

ASSESSMENT

Quarter Options

- | | | |
|---|----------------------|--|
| 1- Diagnostic Procedures
Basic EKG
Radiology
Allergy Testing | | |
| 2- Laboratory Procedures | | |
| 3- Clinical Laboratory Technology | | |
| 4- Phlebotomy Technology | Mult 114
Mult 115 | IAPs-International
Academy of Phlebotomy
Scientists |
| 5- Sterilization, Disinfection,
Minor Surgery & Instrumentation
Intro to Medications/Pharmacology | | |
| 6- General Office Procedures | | |
| 7- Patient Care Skills | Mult 126 | Practicum at Columbus
State Community College-
\$50.00 fee |
| 8- Homemaker - Home Health
Aide | Mult 122 | National Curriculum
and Test |
| 9- Disability Education | | |
| 10- Community Safety & Health | Mult 172 | American Red Cross
HIV/AIDs Instructor
Certification |
| 11- Craft & Leisure Skills | | |
| 12- Human Development | | |
| 13- Introduction to
Surgical Technology | | |

Required Quarter

Independent Study - Career
Focus - mentorship/
internship at worksite
or post secondary enrollment

**SENIOR YEAR (students will need to
select 3 areas of concentration plus
1 quarter of independent study)**

Senior options may be articulated with other health related technologies at Columbus State for advanced credit.

7/96

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Central Ohio Tech Prep Consortium
Curriculum Pathway Narrative
Eastland Career Center
April 1996

Directions: Please complete this document to accompany the curriculum pathways.

In the space below, describe system change at the secondary level and what new options are now available for Tech Prep high school students (occupational, employability, and academic).

Systemic changes are reflected in the Allied Health (Multi-Competency Health) Technology program schedule where students have the option of attending the career center for a full day or attending their home school for the academic portion of the program and spending a half day at the career center for the occupational portion of the program.

The primary focus of the Eastland Allied Health Technology program is to prepare students for continued study in two-year or four-year colleges after high school graduation. While meeting this goal, the program also prepares the student for an entry-level position in several health care fields.

Approximately one-half of the day is spent in academic classes. Instructors in biology, chemistry, algebra, communications, social studies, and sign language work closely with the program instructor to relate college-preparatory academic course work to the health care industry.

The other half-day involves textbook and hands-on learning connected to various aspects of health care. The occupational competencies will be delivered in the 100 - 150-minute Allied health lab. Flexible block scheduling allows the Allied Health Technology instructor and the academic teaching team to work with the same group of students. This scheduling provides the flexibility for teachers to develop interdisciplinary units, to team teach, and to adjust periods allowing more instructional time for specific topics.

In addition to daily contact with the Allied Health Technology instructor, students will receive instruction from other health professionals. Students will use their newly learned skills in clinical experiences at local health care institutions and refine these skills when shadowing health care professionals.

During the senior year of the program, occupational competencies are developed through participation in school-based learning; worksite-based internships, mentorships; and/or enrollment in post-secondary options. Qualified seniors will spend the final quarter involved in an independent study involving their individually chosen health profession.

b:\narrative.hth

**Reynoldsburg High School &
Eastland VEPD**

Multi-Competency Health Technology

Central Ohio Tech Prep Consortium

9th Grade	Min	10th Grade	Min	11th Grade	Min	12th Grade	Min
Tech or Business Algebra I	200	Tech or Business Geometry	150	Tech Comm 11	40	World Culture/ Global Problems	40
Applied Communications		Applied Comm. I		Anatomy & Physiology	40		
American History		Resource Management		American Culture/ Government	40	Analytical Algebra IV	40
Applied Biology		Mechanical Science/ Tech Biology		Analytical Algebra III	40	Tech Comm 12	40
Personal Development	50					Tech Chemistry	40
Word Processing	50	Adv Word Process/Computers	50	Tech Prep Lab	100- 150	*Tech Prep Lab	100- 150
Physical Education (1 sem)	50	Heath (1 sem)	50				
		Physical Education (1 sem)	50				

PREREQUISITES FOR GRADE 11 OF TECH PREP:

Demonstrate potential for college preparatory course work as measured by a standardized achievement test and by being enrolled in a college preparatory curriculum with no academic deficiencies for grades 9 and 10, Algebra I, and Word Processing.

PREREQUISITES FOR COLLEGE PORTION OF TECH PREP:

Enrollment in 11th and 12th grade Tech Prep academic and technical course work or college preparatory course work. Articulation or proficiency testing will determine where students place into the program.

SUGGESTED ELECTIVES:

Foreign Language (Grades 9 & 10)
Global Studies (Grade 10)
Life Planning (Grade 10)
Tech Prep Physics (Grade 12)
Computer Literacy (Grades 9 & 10)

EXPLANATION OF TECH PREP BLOCKS:

9th Grade: Students are in a 200-minute block of core curriculum.
10th Grade: Students are in a 150-minute block of core curriculum.
11th Grade: Tech Prep occupational competencies taught in 100 - 150 minute lab (flexible block scheduling allows instruction to dictate length of lab period).
***12th Grade:** Occupational competencies developed through participation in school-based learning; worksite-based internships, mentorships; and/or enrollment in post-secondary options.

HIGH SCHOOL EXIT OCCUPATIONS:

Nurse Assistant, Home Health Aide, and Ward Clerk.

COLLEGE EXIT OCCUPATIONS:

Multi-Competent Health Technician, Patient Care Technician, Histology Technician, Medical Transcriptionist, Phlebotomy Technician, Nurse Aide, Home Health Aide, Home Care Manager, EKG Technician, EMT/Paramedic.

Central Ohio Tech Prep Consortium Curriculum Pathway Narrative

Reynoldsburg High School

April 1996

Directions: Please complete this document to accompany the curriculum pathways

In the space below, briefly describe the systemic change at the secondary level and what new options are now available for Tech Prep high school students (occupational, employability, and academic).

Systematic change at Reynoldsburg High School is reflected in the integration of personal development and resource management classes, mentorship, and core curriculum classes in a team setting. Change is also reflected in the eleventh and twelfth grade plan in which students will have the option of attending the high school Tech Prep program of their choice for one-half or full-day, attending the career center for the occupational portion of the program.

In the ninth grade, the Reynoldsburg High School Tech Prep plan combines six subjects (math, science, American history, communications, word processing, applications, and personal development) taught by a team of six teachers. The four core subjects will be delivered in a 200-minute block in the morning. Word Processing Applications and Personal Development, which are normally semester classes, will be offered in the afternoon following lunch on an alternating-day basis determined by which group the student is in - purple or gold. For example, period six purple would go to Word Processing Applications on Monday while period six gold would go to Personal Development. On Tuesday, the groups would switch classes, etc. All students receive 5 1/4 credits that include one math, one communications, one science, one American history, one-half word processing elective, and 3/4 personal development elective. Through the Personal Development class, students will have the opportunity to do job shadowing. The students also have two periods for electives or other freshman required courses in the afternoon. Projects will be introduced approximately once a month and will be "led" by one of the six team subjects. Each project will integrate from two to all six classes. One hundred eight ninth-grade students have selected the Tech Prep plan.

In the tenth-grade year, students have an opportunity to continue their Tech Prep studies in a 100 - 150-minute morning block of classes taught by a team of teachers. These classes include communications for one credit, math for one credit, computer applications for one-half credit, and resource management for 3/4 credit and are job focused. Again, computer applications and resource management meet on an alternating day basis. In the resource management class, students will study the process of finding a job, go through mock interviews, and will study how to budget their resources to enhance their personal life. Following lunch, students have the opportunity to take up to four electives or other sophomore required classes. Thematic projects will be introduced once every nine weeks.

The Reynoldsburg Tech Prep plan also incorporates the Inclusion program. Each team is provided with a resource teacher that modifies curriculum for any LD/DH students on the team. This teacher is also available in the classroom for any other students who have questions, thereby allowing more students to understand material presented, since there are two teachers available to help students rather than one.

At the junior and senior level, students will select a high school Tech Prep program to study based upon their career interests. Career clusters and applied academics are currently being developed in Business Technologies. We believe our program provides a seamless curriculum in which students can graduate prepared to enter a two-year, technical, or four-year post-secondary program.

**Whitehall-Yearling High School &
Eastland VEPD**

Multi-Competency Health Technology

Central Ohio Tech Prep Consortium

9th Grade	Min	10th Grade	Min	11th Grade	Min	12th Grade	Min
Tech Prep Algebra I (Algebra I A)	214	Tech Prep Geometry (Algebra I B)	170	Tech Comm 11	40	World Culture/ Global Problems	40
Science/Biology		Science/Physical Science		Anatomy & Physiology	40	Analytical Algebra IV	40
Comm, Business		Communications		American Culture/ Government	40	Tech Comm II	40
Technology/Drafting		Computer Applications		Analytical Algebra III	40	Tech Chemistry	40
Elective	50	Social Studies	50	Tech Prep Lab	100- 150	*Tech Prep Lab	100- 150
Elective	50	Elective	50				
Elective	50						

PREREQUISITES FOR GRADE 11 OF TECH PREP:

Demonstrate potential for college preparatory course work as measured by a standardized achievement test and by being enrolled in a college preparatory curriculum with no academic deficiencies for grades 9 and 10, Algebra I, and Word Processing.

PREREQUISITES FOR COLLEGE PORTION OF TECH PREP:

Enrollment in 11th and 12th grade Tech Prep academic and technical course work or college preparatory course work. Articulation or proficiency testing will determine where students place into the program.

SUGGESTED ELECTIVES:

Foreign Language (Grades 9 & 10)
Tech Prep Physics (Grade 12)
Computer Literacy (Grades 9 & 10)

EXPLANATION OF TECH PREP BLOCKS:

11th Grade: Tech Prep occupational competencies taught in 100 - 150 minute lab (flexible block scheduling allows instruction to dictate length of lab period).

***12th Grade:** Occupational competencies developed through participation in school-based learning; worksite-based internships, mentorships; and/or enrollment in post-secondary options.

HIGH SCHOOL EXIT OCCUPATIONS:

Nurse Assistant, Home Health Aide, and Ward Clerk.

COLLEGE EXIT OCCUPATIONS:

Multi-Competent Health Technician, Patient Care Technician, Histology Technician, Medical Transcriptionist, Phlebotomy Technician, Nurse Aide, Home Health Aide, Home Care Manager, EKG Technician, EMT/Paramedic.

Central Ohio Tech Prep Consortium
Curriculum Pathway Narrative
Whitehall-Yearling High School
April 1996

Directions: Please complete this document to accompany the curriculum pathways.

In the space below, briefly describe the systemic change at the secondary level and what new options are now available for Tech Prep high school students (occupational, employability, and academic).

Whitehall-Yearling High School has chosen to create its own model of excellence using The Effective Schools Model as a springboard. A vast majority of our students graduate from the "general track" with no specific employability skills. Therefore, we are initiating Tech Prep, an interdisciplinary, project-oriented approach to learning, which will more effectively prepare graduates to enter the work force, college, or other post-secondary educational opportunities.

The Whitehall-Yearling Plan, during the ninth-grade block, will combine five subjects (communications, math, science, business, and technology) in a four-period time block. The block will be 214 minutes long and will be delivered in the first four periods of the day. Students will travel from the different rooms based on time schedules to be determined by the team of teachers. All students will receive four credits that include: 1 math, 1 communication, 1 science, 1/2 business, 1/2 technology. These students will then have a lunch period, followed by three additional periods for electives or other required courses. During the Tech Prep program each project will focus on a different academic area. One hundred ninth-grade students have been selected for the Tech Prep team.

The tenth grade block consisting of communications, science, math, and computer applications will enable students to continue their Tech Prep studies. That team of teachers will be selected before school is adjourned in June 1994. The tenth grade Tech Prep program will be based on four thematic units. At the junior and senior levels, students will be instructed by vocational instructors at the home school, at the career centers, or on the job. Career clusters and applied academics are currently being developed in engineering and technology. This constitutes our view of a seamless curriculum whereby students will graduate prepared to enter two-year, technical, or four-year post-secondary programs, or the world of work. We feel the Whitehall-Yearling Plan addresses the precepts of the common belief system as follows:

ALL STUDENTS CAN LEARN: The Whitehall-Yearling Plan addresses the needs of all students, especially those who learn best in a nontraditional environment. The removal of barriers posed by the traditional, 50 minute academic block will allow students to become more participatory in their learning. Students will see connections between academics and the world of work. Project-based learning will ensure applied academics and hands-on experiences. This plan will also more effectively allow for mainstreaming and inclusion of special needs students. Teachers will be seen and heard making decisions and discussing various strategies to enhance student success.

LEARNERS POSSESS MULTIPLE INTELLIGENCES: The Whitehall-Yearling Plan will be built upon the students' individual talents and strengths such as music, photography, speech, etc., to complete unit projects. In addition, a learning styles assessment known as CAPSOL will be administered during the summer 1994, after which teachers can more effectively create classrooms and activities which take into account various learning styles. At the junior/senior levels, students will be able to

participate in career clusters which most appropriately match their individual aptitudes and interests. Teachers will be observed using five to seven instructional strategies during a unit of study.

PARTICIPATION IN A LEARNING COMMUNITY FOSTERS SOCIAL, CIVIC, EMOTIONAL, AND INTELLECTUAL GROWTH: Teachers working in interdisciplinary teams will help students see the connections between academic disciplines. The use of more hands-on projects, especially the culminating activities, will encourage students to learn to work and problem-solve in teams. Weekly Tech Prep assemblies of students and teachers will be held to increase communication. The Tech Prep team has already begun referring to the success of "our" kids for the next year. Community members, parents, and business partners will be involved in the assessment of those projects. As the students move into the tenth grade Tech Prep program, shadowing experiences, interest inventories, interning, use of the OCIS, review of the ICP, and exploration of the career clusters will be encouraged. Juniors and seniors will be involved in technical career clusters at off-site locations such as Mt. Carmel East Hospital, Columbus State Community College, AT & T, Limited Credit Services, EBCO, and the C. Ray Williams Early Child Development Center.

DIVERSE INSTRUCTIONAL STRATEGIES AND ENVIRONMENTS: The school day will certainly be different for the Tech Prep student. Class time will be based on learning needs rather than on the clock. Tech Prep teachers have already been given common planning time as well as an individual planning period. Alternative assessments such as portfolios, learning logs, and audio-visual projects will be used in conjunction with community assessors and displayed throughout the school. The SCANS report has been utilized to determine competencies needed in modern occupations and will be studies by students in applied classes.

SUPPORT SYSTEMS: Whitehall is fortunate to have acquired five computer labs for student use which will be an integral part of The Whitehall-Yearling Plan as the students learn keyboarding, editing, and desktop publishing skills. The Board of Education has allowed the high school to eliminate the general track and has encouraged our pursuit of the Tech Prep initiative. The BRIDGES grant acquired in 1990 has since been incorporated into the district budget, providing peer assisted learning tutors. Whitehall is also fortunate to have a broad base of support from local corporations and small businesses, led by its education partner, Limited Credit Services. Within a five-mile radius, lie Mt. Carmel East Hospital, AT & T, EBCO, DCSC, DFAS, and Port Columbus.

HEART of OHIO TECH PREP CONSORTIUM
1996

Multi-Competency Health Technologies Model

PART I.B:
Postsecondary Curriculum
Pathways & Narratives

Columbus State Community College

**Columbus State Community College
Post-Secondary Path for Multi-Competence Health Technology
Central Ohio Tech Prep Consortium**

Patient Care Major

1st Quarter	Cr	2nd Quarter	Cr	3rd Quarter	Cr	4th Quarter	Cr	5th Quarter	Cr	6th Quarter	Cr
Med. Terminology (MULT 101)	2	Nurse Aide Training Program (MULT 120)	5	CPR (MULT 102)	1	Phlebotomy (MULT 115)	5	Current Issues: HIV Infection (MULT 171)	4	Business Communication (ENGL 200)	3
Beginning Algebra II (MATH 103)	4	Computer Literacy I (CPT 101)	3	Patient Care Skills I (MULT 126)	4	Phlebotomy Practicum II (MULT 114)	4	Speech (COMM 105)	3	Nutrition (HOSP 153)	5
Anatomy, Physiology Pathology I (BIO 121)	5	Anatomy, Physiology Pathology II (BIO 122)	5	Gen & Bio. Chemistry (CHEM 113)	5	(SSCI 101, 102, 103, 104)	5	Waived Tests for Health Care Providers (MULT 123)	3	Point of Care Testing (MULT 153)	1
Beginning Comp (ENGL 101)	3	Essay and Research (ENGL 102)	3	Humanities (HUM 111 or 112, or 113 or 151 or 152)	5	Professionalism for Health Care Providers (MULT 180)	2	Info. Processing Assistant (MULT 125)	5	Patient Care Skills Rehab (MULT 129)	4
Intro. to Health Care (MLT100)	3	Computer Literacy II (MCT 106)	3	Values and Attitudes (MHMR 123)	1	Pharmacology (RESP 150)	3	Social Gerontology (GER 101)	3	I.D. Card, Rhythms (MULT 112)	2
Advanced Med. Terminology (HIMT 121)	3	Personal Health (MULT 174)	3	Intro to Inpatient Coding (MULT 183)	1	Intro to Ambulatory Coding (MULT 184)	1	Twelve Lead EKG (MULT 108)	2		
		Intro to Human Animal Interaction (MULT 181)	2	Radiation Protection for General Machine Operator (MULT 185)	2	Interpersonal Communications in Human Services (GER 103)	4	Intro to Third Party Reimbursement (MULT 185)	1		

Struckout courses (with straight line) - Grade II Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their Tech Prep plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 174, MULT 181, MULT 183, MULT 184, MULT 185, MULT 190, GER 103.

Shaded courses = advanced skills options added to the curriculum.

*Placement into ENGL 111 and ENGL 101 or ENGL 102; ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105.

**Columbus State Community College
Post-Secondary Path for Multi-Competence Health Technology
Central Ohio Tech Prep Consortium**

EMT-Paramedic Major

1st Quarter	Cr	2nd Quarter	Cr	3rd Quarter	Cr	4th Quarter	Cr	5th Quarter	Cr	6th Quarter	Cr	7th Quarter	Cr
Medical Terminology (MULT 104)	2	Anatomy, Physiology and Pathology (BIO 122)	5	CPR (MULT 102)	1	Hospital Clinical I (EMS 281)	2	Bio and Physical Sci Elective (BIO xxx)	5	Public Health (MULT 115)	4	Public Health (MULT 106)	4
Beginning Algebra (MATH 102)	4	Essay & Research (ENGL 102)	3	Speech (COMM 105)	3	(SST 101 or 102 or 103 or 104)	5	EMT-P-II (EMS 212)	7	Public Health (MULT 114)	4	Current Issues HIV Infection (MULT 121)	1
Anatomy, Physiology and Pathology (BIO 121)	5	EMT - Basic (EMS 110)	8	Humanities (HUM 111 or 112 or 113 or 131 or 132)	5	EMT-P-I (EMS 211)	7	Hospital Clinical II (EMS 282)	2	Nurses Aid-Training Program (MULT 120)	5	Advanced Clinical (MULT 122)	4
Beginning Composition (ENGL 101)	3	Responding to Emergencies (MULT 103)	4	General Microbiology (BIO 115)	5	Field Clinical I (EMS 291)	1	Field Clinical II (EMS 292)	1	Public Health (MULT 113)	4	EMT-P-IV (EMS 214)	2
Advanced Medical Terminology (HIMT 121)	3			Values and Attitudes (MHCR 113)	1	Professionalism for Health Care Providers (MULT 180)	2			EMT-P-III (EMS 213)	7	Hospital Clinical IV (EMS 284)	2
Beginning Algebra II (MATH 103)	4									Field Clinical III (EMS 293)	1	Field Clinical IV (EMS 294)	2
										Hospital Clinical (EMS 283)	2	Personal Health (MULT 174)	3
										Business Comm (EMGL 200)	3	Information Processing Assistant (MULT 125)	3
										EMT-Intermediate (EMS 111)	6	Referral Strategies for Chronically Ill (MULT 131)	3
										Waiver Test for Health Care Providers (MULT 123)	13	Intro to Human Animal Interaction (MULT 181)	2
										Point of Care Testing (MULT 153)	1	Intro to Incident Coding (MULT 185)	1
										Twelve Lead EKG (MULT 108)	2	Intro to Ambulatory Coding (MULT 184)	1
										Computer Literacy 2 (MCT 106)	3	Intro to Third Party Reimbursement (MULT 183)	1
										Patient Care Skills Rehab. (PT Aide) (MULT 129)	4	Radiation Protection for General Machine Operator (MULT 190)	2

Struckout courses (with straight line) - Grade 12 Core courses. No college credit is awarded. Students will take the following college advanced skills course as part of their plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 108, 109, 123, 125, 131, 153, 174, 181, 183, 184, 185, 190, EMS 111, MCT 106, MHCR 113.

Shaded courses = advanced skills options added to the curriculum.

*Placement into ENGL 111 or ENGL 101 and ENGL 102; ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105

**Columbus State Community College
Post-Secondary Path for Multi-Competence Health Technology
Central Ohio Tech Prep Consortium**

Histology Major

1st Quarter	Cr	2nd Quarter	Cr	3rd Quarter	Cr	4th Quarter	Cr	5th Quarter	Cr	6th Quarter	Cr	7th Quarter	Cr
Med-Terminology (MULT 104)	3	Responding to Emergencies (MULT 103)	3	CPR (MULT 102)	4	PH 106/104/115	16	Tissue ID (MULT 160)	4	Chemistry of Stains II (MULT 162)	2	Histology Seminar II (MULT 166)	3
Beginning Algebra (MATH 103)	4	Math Lab (MATH 104)	4	Elementary Chemistry (CHEM 111)	5	PH 106/104/115	4	Chemistry of Stains (MULT 161)	3	Basic Histology Techniques II (MULT 164)	3	Histology Clinical Experience II (MULT 168)	8
Anatomy, Physiology Pathology I (BIO 121)	5	Current Issues HIV Infections (MULT 124)	4	Speech (COMM 105)	3	Nurse Aide Training Program (MULT 120)	5	Basic Histology (MULT 163)	4	Histology Seminar II (MULT 165)	1		
Beginning Comp (ENGL 101)	3	Introduction to Writing (MULT 122)	4	Humanities (HUM 111 or 112, or 113 or 151 or 152)	5	Home Health Aide (MULT 122)	16	Computer Literacy II (MCT 106)	4	Histology Clinical Experience I (MULT 167)	4		
Advanced Med. Terminology (HMT 121)	3	Essay and Research (ENGL 102)	3	Personal Health (MULT 174)	3	Intro to Health Care (MULT 100)	3			Business Comm (ENGL 200)	3		
Beginning Algebra II (MATH 103)	4	Anatomy, Physiology & Pathology II (BIO 122)	5			(SSC 101, 102, 103, 104)	5						
Patient Care Skills (MULT 129)	4	Information Processing, Assisting (MULT 125)	5			Professionalism for Health Care Providers (MULT 180)	2						
		Referral Strategies for Chronically Ill Clients (MULT 131)	3			Twelve Lead EKG (MULT 108)	2						
		Intro to Human & Animal Interaction (MULT 181)	2			ID Cardiac Rhythm (MULT 112)	2						
		Intro to Inpatient Coding (MULT 183)	1										
		Intro to Ambulatory Coding (MULT 184)	1										
		Intro to Third Party Reimbursement (MULT 185)	1										
		Radiation Protection for General Machine (MULT 190)	2										

Struckout courses (with straight line) - Grade 11 Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their Tech Prep plan of study: MATH 103, MCT 106, HMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 108, 112, 125, 131, 180, 181, 183, 184, 185, 190

Shaded courses = advanced skills options added to the curriculum

*Placement into ENGL 111 and ENGL 101 or ENGL 102, ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105.

HIGH SCHOOL EXIT OCCUPATIONS:

Nurse Assistant
Home Health Aide
Ward Clerk

COLLEGE EXIT OCCUPATIONS:

EKG Technician
EMT/Paramedic
Medical Transcriptionist
Multi-Competent Health Technician
Patient Care Technician
Nurse Aide
Phlebotomy Technician
Home Care Manager
Home Health Aide
Histologic Technician

PREREQUISITES FOR COLLEGE PORTION OF TECH-PREP:

Placement tests and successful completion of Junior and Senior Year Academic Courses, and Junior Year Core Curriculum Pathway.

ADVANCED SKILLS PORTION OF TECH-PREP:

Shaded courses represent advanced skills courses.

ADVANCED SKILLS PORTION OF TECH-PREP FOR EMT-PARAMEDIC MAJOR

Shaded courses = Placement into ENGL 111 or ENGL 101 and ENGL 102; ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105

EXPLANATION OF TECH-PREP COURSES DIFFERENCES FOR EMT-PARAMEDIC MAJOR

Struckout courses (with straight line) - Grade 11 Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 108, 109, 123, 125, 131, 153, 174, 181, 183, 184, 185, 190, EMS 111, MCT 106, MHCR 113.

ADVANCED SKILLS PORTION OF TECH-PREP FOR HISTOLOGY MAJOR

Shaded courses = Placement into ENGL 111 and ENGL 101 or ENGL 102; ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105

EXPLANATION OF TECH-PREP COURSES DIFFERENCES HISTOLOGY MAJOR

Struckout courses (with straight line) = Grade II Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 108, 112, 125, 131, 180, 181, 183, 184, 185, 190.

ADVANCED SKILLS PORTION OF TECH-PREP FOR PATIENT CARE MAJOR

Shaded courses = Placement into ENGL 111 and ENGL 101 or ENGL 102; ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105

EXPLANATION OF TECH-PREP COURSES DIFFERENCES PATIENT CARE MAJOR

Struckout courses (with straight line) = Grade II Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 174, MULT 181, MULT 183, MULT 184, MULT 185, MULT 190, GER 103.

Curriculum Pathway Narrative

Columbus State Community College Multi-Competency Health Technology (MULT)

The systematic change that will occur in the Multi-Competency Health Technology as a result of the installation of Tech-Prep pathways in the Central Ohio Consortium include the following:

- Additional breadth and depth competencies will be possible at the post-secondary level as a result of students coming to Columbus State better prepared to do college level work. This will help ensure that the health care industry's expectations for quality multi-skilled personnel are being met by freeing up time to cover additional competencies that are being requested by employers in the following areas:

- Interpersonal Communication Skills
- Computer Skills
- Advanced Medical Terminology Skills
- Mathematics
- Overview of Medical Coding and Reimbursement
- Therapeutic Activities
- Personal Health

- In the past these additional competencies were either not addressed or addressed through the students selection of electives and additional courses. With these competencies now being specifically added to the curriculum, graduates will be broadly educated across disciplines as developing several entry level competencies. Graduation from this program will enhance the graduate's ability to gain employment and be job ready in the rapidly changing health care environment. These multi-skilled graduates should also assist the health care industry in their personnel re-engineering and cost containment efforts.

Articulation agreement between specific VEPD Tech Prep Programs, and Columbus State Community College Multi-Competency Health Technology Program will be formalized on an individual VEPD basis, as the vocational articulation agreements are currently done. The Tech-Prep agreements will be in addition to, and not in lieu of, existing vocational program agreements.

- Our Multi-Competency Health Technology program is regularly validated through ongoing surveys, focus groups, and health care industry advisory committees. While the college is confident the Multi-Competency Health Technology Program currently meets the health care industry needs, the faculty and administration of Columbus State acknowledge that some foundational competencies can be

delivered within a collaboratively developed secondary curriculum. The development of the Tech-Prep curriculum provides students with an unique opportunity to augment a solid associate degree curriculum with valuable courses and educational experiences that are not currently included in the standard degree program. Students will benefit from additional depth and breadth offered by the advanced skills associate degree program with course duplication.

The Tech-Prep program is designed to support a high quality, seamless Multi-Competency Health Program. Due to the number of eligible candidates waiting to enter some of the other health care programs, the college cannot guarantee direct passage from high school course work to technical course work at the college.

HEART of OHIO TECH PREP CONSORTIUM

1996

Multi-Competency Health Technologies Model

PART II.A: Secondary Technical Competencies (Unleveled)

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ACADEMIC COMPETENCIES:

Academic Expectations: All students will be enrolled in the following course sequence:

JUNIOR YEAR	Communications (Eng 100) (competencies target preparing students to place into English 111) Analytical Algebra III (Math 103 and 104) Social Studies (American Culture/Government) Biology (competencies identified for Bio 101 - Anatomy & Physiology) - Students are also expected to demonstrate competencies identified for Bio 100 before completing this program Sign Language - OPTIONAL
SENIOR YEAR	Communications (competencies target preparing students to place into English 111) Analytical Algebra IV (Math 104) (competency based course work preparing students to place into Math 148) Social Studies (World Culture/Global Problems) Chemistry (competencies identified for Chem 100) Sign Language - OPTIONAL

COMMUNICATIONS LITERACY

Effective Reading Skills	1
Effective Speaking and Presentation Skills	2
Effective Writing Skills	4
Effective Listening Skills	5
Critical Viewing/Graphic/Observation Skills	5

MATHEMATICS

Algebra	6
Geometry	10
Numbers and Number Relations	12
Data Analysis and Probability	13
Technical Algebra	13
Technical Trigonometry	15

SCIENCE LITERACY

Chemistry	16
Biology/Anatomy/Physiology	18

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SOCIAL/CULTURAL LITERACY

Growth of Social, Political, and Economic Institutions	35
Human Diversity and Historical/Current Issues	38
Analyzing Information	39

COMPUTER LITERACY	43
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VOCATIONAL TECHNICAL COMPETENCIES:

COMMON CORE

Core competencies will be required of all students.

Medical Terminology	47
Assessment:	48
Employability Skills	48
Insurance	58
Career Exploration	59
Medical Law and Ethics	62
Quality Assurance	65
Hazard Management	66
Infection Control	68
HIV/AIDS Education	70
Assessment:	75
Community First Aid and Safety	76
Assessment:	77
Nurse Aide Training Program	77
Assessment:	98

ELECTIVES

All students will select three (3) areas of concentration plus one (1) quarter of independent study with a career focus; participate in a mentorship/internship at a worksite; or enroll in related post-secondary technical coursework.

Diagnostic Procedures	99
Laboratory Procedures	102
Laboratory Technology	105
Phlebotomy Technology	113
Assessment:	119
Sterilization and Disinfection-Minor Surgery and Instrumentation	120
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Homemaker-Home Health Aide	135
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Disability Education	145
Community Health and Safety	146
Assessment:	147
Craft/Leisure Skills	147
Human Development	148
Surgical Technology	149

COMMUNICATIONS LITERACY

(Eng 100)

Effective Reading Skills

- | | |
|------------|---|
| 1.01.01.00 | Differentiate between fact, opinion, and inference |
| 1.01.03.00 | Recognize the intent and use of propaganda |
| 1.01.04.00 | Identify and summarize ideas, information, and events that are explicitly stated in written material |
| 1.01.05.00 | Explain the sequence of time, places, events, and ideas |
| 1.01.06.00 | Identify and explain the main and subordinate ideas (stated or implied) in a written work |
| 1.01.06.01 | Differentiate between details that support or do not support main ideas in a written work |
| 1.01.08.00 | Find, understand, and apply information from a variety of sources (books, manuals, newspapers, periodicals, directories, reference works, computer printouts, and electronic sources) |
| 1.01.09.00 | Use the features of books and reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix, and bibliography |
| 1.01.10.00 | Define and use unfamiliar words and specialized vocabulary (including abbreviations, acronyms, concepts, and jargon) by using structural analysis, decoding, contextual cues, dictionaries, and computers |
| 1.01.11.00 | Read and understand short notes, memos, letters, and forms |
| 1.01.12.00 | Read and follow complex directions |

Communications

- 1.01.13.00** Determine the author's purpose
- 1.01.14.00** Read, evaluate, and respond critically to various literature forms, genres, and printed medias
- 1.01.15.00** Recognize and interpret organizational patterns of writing (e.g., cause and effect, comparison and contrast, and simple listing)
- 1.01.16.00** Identify the structural elements of literature (e.g., plot, theme, character, mood, setting, and point of view)
- 1.01.17.00** Identify literary devices (e.g., metaphor, foreshadowing, flashback, allusion, satire, and irony)
- 1.01.19.00** Take accurate notes from written sources
- 1.01.20.00** Recognize, analyze, and discuss the rhetorical strategies and writing techniques used in various student and professional writings
- 1.01.21.00** Summarize or paraphrase a written selection to confirm one's own understanding of what was read
- 1.01.22.00** Understand and use appropriate techniques for taking different types of tests

Effective Speaking and Presentation Skills

- 1.02.01.00** Give oral directions and clear explanations
- 1.02.02.00** Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with individuals

Communications

- 1.02.03.00 Demonstrate correct usage of vocabulary
- 1.02.05.00 Speak effectively using non-verbal communication such as eye contact, posture, and gestures
- 1.02.06.00 Select topics suitable to audience, situation, and purpose
- 1.02.08.00 Give formal and informal talks and speeches
- 1.02.08.01 Explain and demonstrate the basic elements of public speaking
- 1.02.08.02 Present speeches using an extemporaneous delivery style, with minimal use of note cards or text, maximum eye contact, appropriate voice intonations and body language, and minimal verbal mannerisms
- 1.02.09.00 Demonstrate the differences between informing and persuading and use the appropriate techniques of content and delivery for each purpose
- 1.02.09.01 Present an informative speech by limiting the scope of the topic and selecting a workable pattern of organization with an effective beginning and ending
- 1.02.09.02 Present a persuasive speech that will demonstrate the student's awareness of and sensitivity to the audience through the use of appropriate language and audience data
- 1.02.10.00 Use visual media
- 1.02.11.00 Demonstrate proper telephone etiquette

Communications

Effective Writing Skills

- 1.03.01.00 **Demonstrate ability to use different forms of writing (e.g., literary response, business and technical communicative modes, personal responses, journals, research and recording)**
- 1.03.01.01 Demonstrate understanding of good letter writing principles
- 1.03.02.00 **Demonstrate appropriate selection of mode, purpose, audience, point of view, and organization of information in written assignments**
- 1.03.02.01 Produce a completed narrative essay
- 1.03.02.02 Produce a completed descriptive/observational essay
- 1.03.02.03 Produce a completed informational paper
- 1.03.02.04 Produce a completed persuasive essay
- 1.03.03.00 **Demonstrate proficiency in word processing, graphics, and/or desktop publishing aids for writing**
- 1.03.04.00 **Apply writing process techniques: 1) Prewriting 2) Drafting 3) Revising 4) Editing/proofreading 5) Publishing**
- 1.03.04.01 Use journal writing as a pre-writing and learning tool
- 1.03.04.02 Revise and accurately edit both their own and other's written work
- 1.03.07.00 **Create written summaries of information**
- 1.03.08.00 **Use appropriate techniques for documentation of sources**

Communications

Effective Listening Skills

- 1.04.01.00 Follow spoken directions
- 1.04.02.00 Distinguish between fact and opinion
- 1.04.03.00 Make inferences and draw conclusions from verbal and non-verbal messages
- 1.04.04.00 Identify and comprehend the main and subordinate ideas in lecture and discussions, questions to clarify information heard, and report accurately what others have said
- 1.04.05.00 Restate or paraphrase a conversation to confirm one's own understanding of what was said
- 1.04.06.00 Take accurate notes which summarize material presented from spoken conversations, including telephone messages
- 1.04.08.00 Critique speeches and other verbal presentations

Critical Viewing/Graphic/Observation Skills

- 1.05.01.00 Read and understand graphs, charts, and tables to obtain factual information
- 1.05.02.00 Produce and utilize effective communication skills in the development of graphs, tables, and charts to communicate ideas
- 1.05.03.00 Critically view historical or contemporary events, via TV or video tape, and make appropriate observations
- 1.05.05.00 Communicate through use of video tape and computer presentations

MATHEMATICS

(Math 104)

Algebra

- | | |
|------------|--|
| 3.01.01.00 | Solve linear equations |
| 3.01.01.01 | Combine like terms |
| 3.01.01.02 | Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions |
| 3.01.01.03 | Solve equations in one variable utilizing one operation |
| 3.01.01.04 | Solve equations in one variable utilizing two or more operations |
| 3.01.01.05 | Describe and use the logic of equivalence in working with equations, inequalities, and functions |
| 3.01.01.06 | Identify variables, constants, terms, expressions, and coefficients |
| 3.01.01.07 | Define absolute value |
| 3.01.01.08 | Evaluate algebraic expressions |
| 3.01.01.09 | Solve the literal equation or formula for a specified variable |
| 3.01.01.10 | Recognize the properties of equalities |
| 3.01.01.11 | Solve a 2x2 system of linear equations by elimination |
| 3.01.01.12 | Solve a 2x2 system of linear equations by substitution |
| 3.01.01.13 | Apply the rules for solving linear equations in one variable |
| 3.01.01.14 | Use formulas |
| 3.01.01.15 | Use handheld graphic calculators to solve linear equations and graph simple functions |
| 3.01.01.16 | Solve linear equations in one variable containing an absolute value symbol |

Mathematics

- 3.01.02.00** Use properties of exponents
- 3.01.02.01 Define exponent
- 3.01.02.02 Compare and compute using scientific notation
- 3.01.02.03 Determine values for the square root of any natural number
- 3.01.02.04 Determine the principal square root and recognize square roots of negatives as being non-real
- 3.01.02.05 Divide terms having factors with exponents
- 3.01.02.06 Multiply and divide polynomial expressions
- 3.01.02.07 Operate with radicals and leave the result in simplified form
- 3.01.02.08 Apply the properties of exponents to simplify polynomial expressions
- 3.01.02.09 Multiply terms having factors with exponents
- 3.01.02.10 Solve radical equations
- 3.01.03.00** Factor a polynomial of two or more terms
- 3.01.03.01 Apply the distributive law in removing common factors
- 3.01.03.02 Factor difference of two squares
- 3.01.03.03 Factor quadratic trinomials
- 3.01.04.00** Solve linear inequalities and show the solution on a number line
- 3.01.04.01 Combine like terms
- 3.01.04.02 Use the Substitution Property to evaluate expressions and formulas
- 3.01.04.03 Evaluate algebraic expressions
- 3.01.04.04 Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions

Mathematics

- 3.01.04.05 Identify variables, constants, terms, expressions, and coefficients
- 3.01.04.06 Solve equations in one variable utilizing two or more operations
- 3.01.04.07 Describe and use the logic of equivalence in working with equations, inequalities, and functions
- 3.01.04.08 Solve a linear inequality in one variable using two or more operations
- 3.01.04.09 Define absolute value
- 3.01.04.10 Solve problems involving statements of inequality
- 3.01.04.11 Use interval notation to describe inequalities on a number line
- 3.01.04.12 Define and describe the union and intersection of intervals
- 3.01.04.13 Graph inequalities in two variables
- 3.01.05.00 Recognize, relate, and use the equivalent ideas of zeros of a function, roots of an equation, and solutions of an equation in terms of graphical and symbolic representations
- 3.01.05.01 Apply the distributive law in removing common factors
- 3.01.05.02 Factor the difference of two squares
- 3.01.05.03 Factor quadratic trinomials
- 3.01.05.04 Combine like terms
- 3.01.05.05 Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions
- 3.01.05.06 Solve equation in one variable utilizing one operation
- 3.01.05.07 Solve equations in one variable utilizing two or more operations
- 3.01.05.08 Describe and use the logic of equivalence in working with equations, inequalities, and functions
- 3.01.05.09 Identify variables, constants, terms, expressions, and coefficients

Mathematics

- 3.01.05.10 Explore and describe characterizing features of functions
- 3.01.05.11 Find X and Y intercepts of a line
- 3.01.05.12 Decide whether or not a relation is a function. Use function notation. Find domains and ranges
- 3.01.05.13 Use set notation to describe and discuss domain and range of a function
- 3.01.05.14 Factor perfect square trinomials
- 3.01.06.00 Graph equations
- 3.01.06.01 Develop graphical techniques of solution for problem situations involving functions
- 3.01.06.02 Explore and describe characterizing features of functions
- 3.01.06.03 Describe problem situations by using and relating numerical, symbolic, and graphical representations
- 3.01.06.04 Use the language and notation of functions in symbolic and graphing settings
- 3.01.06.05 Find X and Y intercepts of a line
- 3.01.06.06 Write equations for a line
- 3.01.06.07 Use a graphing calculator or computer to generate the graph of a function
- 3.01.06.08 Graph a linear equation using the slope-intercept method
- 3.01.06.09 Translate among tables, algebraic expressions, and graphs of functions
- 3.01.06.10 Estimate shape of graphs of various functions and algebraic expressions
- 3.01.06.11 Use handheld graphic calculators to solve linear equations and graph simple functions
- 3.01.06.12 Graph basic functions using the Cartesian coordinate system

Mathematics

- 3.01.06.13 Derive the equation of a line given two points of the line, one point and the slope, or slope and Y intercept
- 3.01.07.00 Demonstrate the ability to translate statements and equations from written to algebraic form and algebraic to written form
- 3.01.08.00 Determine slope, midpoint, and distance
- 3.01.08.01 Solve problems related to sets of points on a Cartesian coordinate system
- 3.01.08.02 Calculate the slope of a line using the coordinates of two points of the line or a graph of the line
- 3.01.09.00 Model real-world phenomena with polynomial and exponential functions
- 3.01.09.01 Use curve fitting to predict from data
- 3.01.09.02 Graph exponential functions which model real world statistics (e.g., population growth, radioactive decay)

Geometry

- 3.02.01.00 Find perimeters, surface areas and volumes of geometric figures
- 3.02.01.01 Recognize and classify two-and three-dimensional figures (e.g., circles, triangles, rectangles, cylinders, prism)
- 3.02.01.02 Create and interpret drawings of three-dimensional objects
- 3.02.01.03 Classify, label, and describe polygons and solids
- 3.02.01.05 Use handheld graphic calculators to solve area and volume problems
- 3.02.01.06 Given the dimensions of various geometric shapes common to the technological industries, determine areas and volumes in English and metric units

Mathematics

- 3.02.01.07 Estimate the area of irregular plane figures
- 3.02.01.09 Convert between radians and degrees
- 3.02.03.00 Recognize, classify, and use properties of lines and angles
- 3.02.03.01 Demonstrate an understanding of angles and parallel and perpendicular lines
- 3.02.03.02 Define terms related to angles
- 3.02.03.04 Demonstrate an understanding of special angles
- 3.02.03.05 Understand the various units of measure of angles
- 3.02.03.06 Identify points, lines, and planes
- 3.02.03.07 Use the concept of betweenness
- 3.02.03.08 Measure angles correctly
- 3.02.03.09 Convert between radians and degrees
- 3.02.04.00 Describe and apply the properties of similar and/or congruent figures
- 3.02.04.01 Be able to make scale drawings
- 3.02.05.00 Solve right triangle problems
- 3.02.05.01 Apply the Pythagorean Theorem
- 3.02.05.02 Identify basic functions of sine, cosine and tangent
- 3.02.05.03 Compute and solve problems using basic trigonometric functions
- 3.02.06.00 Demonstrate inductive and deductive reasoning through application to various subject areas
- 3.02.06.01 Demonstrate an understanding of and ability to use proof

Mathematics

Numbers and Number Relations

- 3.03.01.00 Estimate answers, compute, and solve problems involving real numbers
- 3.03.01.01 Round off decimals to one or more places
- 3.03.01.02 Round and/or truncate numbers to designated place value
- 3.03.01.03 Round off single and multiple digit whole numbers
- 3.03.01.04 Estimate measurements
- 3.03.01.05 Use mental computation when computer and calculator are inappropriate
- 3.03.01.06 Find the least common denominator of two fractions
- 3.03.02.00 Compare and contrast the real number system, the rational number system, and the whole number system
- 3.03.03.00 Determine if a solution to a mathematical problem is reasonable (estimate)
- 3.03.04.00 Select and compute using appropriate units of measure
- 3.03.04.01 Convert, compare, and compute with common units of measurement within and/or across measurement systems
- 3.03.04.02 Use and convert between measurements in the Apothecaries' System of Measurement
- 3.03.04.03 Use the correct notations from the Apothecaries' System of Measurement

Mathematics

Data Analysis and Probability

- 3.04.01.00 Collect and organize data into tables, charts, and graphs
- 3.04.01.01 Take a random sample from a population
- 3.04.03.00 Understand and apply measures of central tendency, variability, and correlation
- 3.04.03.01 Compute and interpret means (averages)
- 3.04.03.02 Compute and interpret median and/or mode
- 3.04.03.03 Understand what a normal distribution is
- 3.04.03.04 Understand what a uniform distribution is

Technical Algebra

- 3.05.01.00 Evaluate and graph functions using rectangular coordinates
- 3.05.01.01 Graph inequalities in two variables
- 3.05.02.00 Solve systems of linear equations and inequalities using matrices, graphs, and algebraic methods
- 3.05.02.01 Solve systems of linear equations with up to 3 variables
- 3.05.02.02 Solve a 2x2 system of linear equations using matrices
- 3.05.03.00 Understand the complex number system and exhibit facility with its operation
- 3.05.03.01 Solve problems having complex solutions
- 3.05.03.02 Examine complex numbers as zeros of a function

Mathematics

- 3.05.03.08 Add, subtract, multiply and divide complex numbers in rectangular form
- 3.05.04.00 Analyze exponential functions
- 3.05.04.02 Do calculations involving exponential expressions and functions
- 3.05.04.04 Graph exponential functions
- 3.05.04.06 Use graphing calculators to generate tables to plot exponential curves
- 3.05.05.00 Simplify and solve quadratic equations
- 3.05.05.01 Simplify algebraic expressions, multiply and divide polynomials, and solve quadratic equations
- 3.05.05.02 Solve a quadratic equation by factoring, by completing the square, and by using the quadratic formula
- 3.05.05.03 Calculate the discriminant of a quadratic equation
- 3.05.05.04 Put a quadratic equation in standard form and identify a, b, and c
- 3.05.05.05 Draw conclusions about the solutions of a quadratic equation based upon the value of the discriminant
- 3.05.05.06 Use a handheld graphic calculator to find the real solutions of a quadratic function to within stated limits of accuracy
- 3.05.06.00 Analyze rational functions
- 3.05.06.01 Simplify rational expressions
- 3.05.06.02 Find the least common denominator of two rational expressions
- 3.05.06.03 Add, subtract, multiply and divide rational expressions
- 3.05.06.04 Solve rational equations
- 3.05.06.05 Identify and describe domain and range of rational functions

Mathematics

- 3.05.06.06 Define asymptote
- 3.05.06.07 Identify and describe the asymptotes of a rational function and recognize their significance
- 3.05.06.08 Graph rational functions using a handheld graphic calculator
- 3.05.06.09 Use a handheld graphic calculator to find any intercepts of a rational function to within stated limits of accuracy

Technical Trigonometry

- 3.06.02.00 Recognize and identify graphs of the trigonometric functions
- 3.06.02.01 Recognize and graph basic trig curves

SCIENCE LITERACY**Chemistry**

(Chem 100)

- 4.01.01.00** Explore atomic theory and present findings using various representational formats.
- 4.01.01.01 Describe a mechanism of bond formation and identify the type of chemical bond formed as ionic, covalent, or metallic
- 4.01.01.02 Relate the concept of periodicity to atomic properties and the periodic table of elements
- 4.01.01.03 Describe charge and ionic compounds in the context of electrochemical theories
- 4.01.01.04 Recognize that the atomic model is only a model and, like any model, is subject to change
- 4.01.01.05 State an atomic theory which includes atomic structure, components and their properties, interactions (electron/nuclear) and theory models
- 4.01.01.06 Demonstrate knowledge of chemical symbolism which will include symbols, formulas, and equations
- 4.01.01.07 Describe characteristics of ionic compounds
- 4.01.01.08 Describe characteristics of covalent compounds
- 4.01.01.09 Use a periodic table to predict the type of bonding which should occur between elements
- 4.01.01.10 Recognize and identify chemical symbols
- 4.01.01.11 Identify atomic numbers, atomic mass and general atomic structure based upon the periodic table
- 4.01.01.12 Prepare orbital notation for elements from the periodic table
- 4.01.01.13 Identify and explain phases of matter
- 4.01.02.00** Perform investigations that require observations over varying periods of time concerning the interrelationship of matter and energy

Science Literacy

- 4.01.02.01 State a scheme of matter which includes elements, compounds, and mixtures
- 4.01.02.02 Relate a chemical equation to the concept of chemical change
- 4.01.02.03 Classify matter according to properties and composition
- 4.01.02.04 Predict the properties of matter based on data provided in pictures, drawings, charts, graphs, tables, mathematical expressions, and scientific literature
- 4.01.02.05 Describe the conservation laws and correctly use the standard units for these laws in relation to conservation of mass/energy and conservation of charge
- 4.01.02.06 Describe properties of carbon and organic molecules
- 4.01.02.07 State the laws of chemical combinations (conservation of mass, definite composition, multiple proportions)
- 4.01.02.08 List assumptions of the kinetic theory of matter
- 4.01.02.10 Manipulate data in problem solving, including: mole problems, concentration problems, gas law problems, atomic/molecular structure problems and equation balancing
- 4.01.02.11 Discuss the concept of mole
- 4.01.02.12 State the properties of gases and the laws that apply to gases
- 4.01.02.13 Identify applications of Avogadro's hypothesis such as Avogadro's number, molar volume, and gram molecular weight/molar mass
- 4.01.02.14 Use the kinetic molecular theory to explain states of matter, rates of reaction, and chemical equilibrium
- 4.01.02.15 Manipulate stoichiometric relationships
- 4.01.02.16 Correctly write formulas and name chemical compounds
- 4.01.02.17 Properly balance basic chemical equations
- 4.01.02.18 Predict oxidation members from the periodic table and compounds

Science Literacy

- 4.01.02.19 Use electronegativity to predict reactions
- 4.01.03.00 Demonstrate basic chemistry laboratory techniques and procedures to include equipment and safety precautions
- 4.01.03.01 Identify and use basic laboratory equipment
- 4.01.03.02 Demonstrate a basic ability to measure liquids and solids in the laboratory
- 4.01.03.03 Recognize basic safety techniques for chemistry laboratory

Biology/Anatomy/Physiology

(Bio 100, Bio 101)

- 4.02.01.00 Using models and explorations, examine cellular components and their relationships
- 4.02.01.01 Describe the cell theory: structure and function
- 4.02.01.02 Describe the role of nucleic acids in cell functions and heredity
- 4.02.01.03 Describe the events of mitosis and meiosis
- 4.02.01.05 List causes and effects of gene mutations and chromosomal aberrations
- 4.02.01.06 Describe current advances in genetic engineering and possible applications in agriculture and medicine
- 4.02.02.00 Recognizing and contrasting biological characteristics, derive a scheme to classify living organisms
- 4.02.02.01 List characteristics of living organisms
- 4.02.02.02 Classify common organisms by observable characteristics
- 4.02.02.03 Describe how living organisms are classified
- 4.02.02.04 List characteristics of organisms in each kingdom
- 4.02.02.05 Explain the difference between viruses and bacteria

Science Literacy

- 4.02.03.00** Formulate and understanding of the relationship about organisms, their physical surroundings and their change processes
- 4.02.03.01 Describe the interrelationship of an organism with its environment, including: pollution, populations, community, conservation, habitat, and ecosystem
- 4.02.03.02 Define natural selection and list evidence for its existence
- 4.02.03.03 Discuss the development of Darwin's theory of evolution
- 4.02.03.04 Discuss hypotheses of the origin of life
- 4.02.03.06 Explain and present examples of the importance of water to sustain life in terms of available water sources, water quality, and uses and quantification
- 4.02.03.07 Explain interrelationship of wastewater collection, treatment, and public health in terms of organic and inorganic pollutant concentrations and pathogenic organisms
- 4.02.03.08 Describe how human activities interfere with biological diversity
- 4.02.04.00** Using an understanding of life processes, formulate explanations of the influences and the effects of other organisms on the living condition
- 4.02.04.01 Explain the relationship between microorganisms and disease
- 4.02.04.02 Describe the following life processes: digestion, transpiration, respiration, circulation, reproduction, locomotion, excretion, sensory, regulation by endocrine glands, metabolism, and photosynthesis
- 4.02.04.03 Distinguish between myths and realities of the HIV virus and AIDS
- 4.02.04.04 Explain the relationship between anatomical structure and function
- 4.02.04.05 Identify structures in human physiology

Science Literacy

- 4.02.05.00 Recognizing the organization of living organisms**
- 4.02.05.01 Differentiate science from nonscience by listing characteristics of science
- 4.02.05.02 Compare the characteristics of science to beliefs, philosophy, superstition, costumes, and religion
- 4.02.05.03 Define biology
- 4.02.05.04 Discuss the scientific method
- 4.02.05.05 List the levels of organization from atom, macromolecule, cell, tissue, organ, organ system, organism, species, genus
- 4.02.06.00 Identify cellular components and their relationships**
- 4.02.06.01 Differentiate an autotroph from a heterotroph
- 4.02.06.02 Differentiate a prokaryote from a eukaryote
- 4.02.06.03 Differentiate a cell membrane from a cell wall
- 4.02.06.04 Explain the current theory of cell membrane structure-the fluid mosaic model
- 4.02.06.05 Differentiate between passive transport and active transport
- 4.02.06.06 Discuss the processes of diffusion, osmosis, active transport, facilitated diffusion, exocytosis, and endocytosis
- 4.02.06.07 Identify a specific function of the nucleus, nucleolus, mitochondria, ribosomes, endoplasmic reticulum, golgi body, lysosome, centrioles, cilia, microtubules, and vacuole
- 4.02.06.08 Identify the elements which compose the majority of living matter - C,H,N,O,P,S
- 4.02.06.09 Differentiate an atom from an ion
- 4.02.06.10 List the chemical symbols for the following compounds - water, carbon dioxide, ammonia, glycerol, fatty acid, glucose, and an amino acid

Science Literacy

- 4.02.06.11 Differentiate water soluble compounds from lipid soluble compounds and give examples
- 4.02.06.12 Define the terms monomer and polymer
- 4.02.06.13 Name the component molecules of maltose, starch, protein and triglyceride
- 4.02.06.14 List the component molecules of a nucleotide
- 4.02.06.15 Compare the advantages of unicellularity versus multicellularity
- 4.02.06.16 State that DNA is common to all living organisms on earth
- 4.02.06.17 Compare the commonality of enzymes
- 4.02.07.00 Formulate an understanding of the physical structures and chemical processes occurring within the cell
- 4.02.07.01 Differentiate photosynthesis from chemosynthesis
- 4.02.07.02 Summarize briefly the process of photosynthesis by correlating the cell organelles involved, the starting energy, the end products of carbon fixation, and its significance
- 4.02.07.03 Define digestion
- 4.02.07.04 Differentiate aerobic from anaerobic metabolism
- 4.02.07.05 Summarize glycolysis by correlating the starting compound and end products
- 4.02.07.06 Differentiate the 2 carbon end products of anaerobic glycolysis in plants and animals
- 4.02.07.07 Summarize cell respiration by correlating starting compounds and end products of the bridge step, krebs cycle, and the electron transport systems
- 4.02.07.08 Compare the amounts of ATP formed in aerobic metabolism versus anaerobic metabolism
- 4.02.07.09 List several functions that require ATP

Science Literacy

- 4.02.07.10 Differentiate the 4 levels of organization of a protein molecule
- 4.02.07.11 Correlate the roles of proteins in cells-enzymes, structural, antibodies, receptor sites, pigments
- 4.02.07.12 Analyze the process of protein synthesis by discussing complementary base pairing, transcription, mRNA, tRNA, ribosomes, codons, anticodons, translation, and significance of errors
- 4.02.07.13 Analyze the cell cycle by discussing G₁, S, G₂, Mitosis, and cytokinesis
- 4.02.07.14 Discuss the process of mitosis and correlate events in each phase
- 4.02.07.15 Differentiate plant and animal cytokinesis
- 4.02.07.16 Discuss meiosis and correlate events in each phase
- 4.02.07.17 Compare and contrast the processes of human spermatogenesis and oogenesis
- 4.02.07.18 Use a Punnett square to solve monohybrid and dihybrid cross problems
- 4.02.07.19 Define a mutation and discuss its significance
- 4.02.07.20 Describe briefly examples of recombinant DNA technology
- 4.02.08.00 Classify organisms by observable characteristics
- 4.02.09.00 Demonstrate knowledge of the general function of the human body
- 4.02.09.01 Define the terms Anatomy, Physiology and Pathology
- 4.02.09.02 Describe the organization of the body from cells to the whole organism
- 4.02.09.03 List ten body systems and give the general function of each
- 4.02.09.04 Define metabolism and name the two phases of metabolism
- 4.02.09.05 Briefly explain the role of ATP in the body
- 4.02.09.06 Define homeostasis and negative feedback

Science Literacy

- 4.02.09.07 List and define the main directional terms for the body
- 4.02.09.08 List and define the three planes of division of the body
- 4.02.09.09 Name the subdivisions of the dorsal and ventral cavities
- 4.02.09.10 Name the basic metric units of length, weight, and volume
- 4.02.09.11 Define the metric prefixes - kilo-, cent-, milli-, and micro-
- 4.02.10.00 Demonstrate knowledge of chemistry, matter, and life
- 4.02.10.01 Identify elements on the periodic table
- 4.02.10.02 Describe the structure of an atom
- 4.02.10.03 Differentiate between atoms and molecules
- 4.02.10.04 Define the atomic number of an atom
- 4.02.10.05 Differentiate among elements, compounds, mixtures, and give examples of each
- 4.02.10.06 Explain why water is so important to the body
- 4.02.10.07 Define mixture; list the three types of mixtures and give two examples of each
- 4.02.10.08 Differentiate between ionic and covalent bonds
- 4.02.10.09 Define the terms acid, base and salt
- 4.02.10.10 Explain how the numbers on the pH scale relate to acidity and alkalinity
- 4.02.11.00 Demonstrate knowledge of cells and their functions
- 4.02.11.01 List three types of microscopes used to study cells
- 4.02.11.02 Describe the function and composition of cytoplasm
- 4.02.11.03 Name and describe the main organelles in the cell

Science Literacy

- 4.02.11.04 Give the composition, location, and function of DNA
- 4.02.11.05 Give the location and function of RNA
- 4.02.11.06 Explain briefly how cells make proteins
- 4.02.11.07 Describe briefly the steps of cell division
- 4.02.11.08 List four methods by which substances enter and leave cells
- 4.02.11.09 Explain diffusion, filtration and osmosis
- 4.02.11.10 Define CANCER
- 4.02.11.11 List several risk factors of CANCER

- 4.02.12.00 Demonstrate knowledge of tissues, glands and membranes
- 4.02.12.01 Name the four main groups of tissues and give the location and general characteristics of each
- 4.02.12.02 Describe the difference between exocrine and endocrine glands
- 4.02.12.03 Give examples of soft, hard, and liquid connective tissues
- 4.02.12.04 Name four types of membranes and give location and functions of each
- 4.02.12.05 Describe two types of epithelial membranes
- 4.02.12.06 Explain the difference between malignant tumors and benign tumors
- 4.02.12.07 List four methods of diagnosing cancer
- 4.02.12.08 List four methods of treating cancer

- 4.02.13.00 Demonstrate knowledge of disease and disease producing organisms
- 4.02.13.01 Define disease and list seven causes of disease
- 4.02.13.02 List eight predisposing causes of disease

Science Literacy

- 4.02.13.03 Differentiate between acute and chronic disease
- 4.02.13.04 List four types of organisms studied in microbiology and give characteristics of each
- 4.02.13.05 List some disease caused by each type of microorganism
- 4.02.13.06 Describe the three types of bacteria according to shape
- 4.02.13.07 List several diseases in humans caused by worms
- 4.02.13.08 Describe how infections may be spread
- 4.02.13.09 Describe several public health measures taken to prevent spread of disease
- 4.02.13.10 Differentiate sterilization, disinfection, and antisepsis
- 4.02.13.11 Describe universal precautions
- 4.02.13.12 Define Chemotherapy
- 4.02.13.13 Describe several methods used to identify microorganisms in the laboratory

- 4.02.14.00 Demonstrate knowledge of the integumentary system
- 4.02.14.01 Describe the layers of the Integumentary System
- 4.02.14.02 Describe the location and function of the appendages of the skin
- 4.02.14.03 List the main functions of the skin
- 4.02.14.04 Summarize the information to be gained by observation of the skin
- 4.02.14.05 List the main diseases of the skin

- 4.02.15.00 Demonstrate knowledge of the skeletal system
- 4.02.15.01 Name the three different types of bone cells and describe the functions of each

Science Literacy

- 4.02.15.02 Differentiate between compact bone and spongy bone
- 4.02.15.03 Describe the structure of a long bone
- 4.02.15.04 Explain how long bones grow
- 4.02.15.05 Differentiate between red and yellow marrow
- 4.02.15.06 List the bones of the axial skeleton
- 4.02.15.07 List the bones of the appendicular skeleton
- 4.02.15.08 Describe five bone disorders
- 4.02.15.09 Describe three abnormal curves of the spine
- 4.02.15.10 List and define six types of fractures
- 4.02.15.11 Describe the three types of joints
- 4.02.15.12 Describe the structure of a synovial joint
- 4.02.15.13 Define six types of movement that occur at a synovial joint
- 4.02.15.14 Describe four types of arthritis
- 4.02.16.00 Demonstrate knowledge of the muscular system
- 4.02.16.01 List the characteristics of skeletal muscles
- 4.02.16.02 Describe how muscles contract
- 4.02.16.03 List the substances needed in muscle contraction and describe the function of each
- 4.02.16.04 Define oxygen debt
- 4.02.16.05 Compare isotonic and isometric contractions
- 4.02.16.06 Explain how muscles work in pairs to produce movement
- 4.02.16.07 Name some major muscles in each muscle group

Science Literacy

- 4.02.16.08 Describe how muscles change with age
- 4.02.16.09 List the major muscular disorders
- 4.02.17.00 Demonstrate knowledge of the nervous system
- 4.02.17.01 Describe the organization of the nervous system according to structure and function
- 4.02.17.02 Explain the transmission of a nerve impulse
- 4.02.17.03 Define synapse and describe the role of neurotransmitters at the synapse
- 4.02.17.04 Name the three types of nerves and explain how they differ from each other
- 4.02.17.05 Describe the spinal cord and name several functions
- 4.02.17.06 Describe and name the spinal nerves
- 4.02.17.07 Name and describe the main parts of the reflex arc and cite examples of reflexes
- 4.02.17.08 Compare the location and functions of the two parts of autonomic nervous system
- 4.02.18.00 Demonstrate knowledge of the sensory system
- 4.02.18.01 Describe the function of the sensory system
- 4.02.18.02 List the major senses
- 4.02.18.03 Describe the structure of the eye
- 4.02.18.04 Define refraction and list the refractive media of the eye
- 4.02.18.05 List several disorders of the eye
- 4.02.18.06 Describe the three divisions of the ear
- 4.02.18.07 Describe the receptors for hearing and equilibrium

Science Literacy

- 4.02.18.08 Define general sense and give five examples of such senses
- 4.02.19.00 **Demonstrate knowledge of the endocrine system**
- 4.02.19.01 Compare the effects of the nervous system and the endocrine system in controlling the body
- 4.02.19.02 Explain how hormones are regulated
- 4.02.19.03 Identify the glands of the endocrine system
- 4.02.19.04 List the hormones produced by each endocrine gland
- 4.02.19.05 Describe how the hypothalamus controls the anterior and posterior pituitary
- 4.02.19.06 Explain how the endocrine system responds to stress
- 4.02.20.00 **Demonstrate knowledge of the blood**
- 4.02.20.01 List the functions of the blood
- 4.02.20.02 List the main ingredients in plasma
- 4.02.20.03 Name the three types of formed elements in the blood
- 4.02.20.04 Describe five types of leukemia
- 4.02.20.05 Describe the formation of the blood cells and give approximate lifespan of each type
- 4.02.20.06 Cite three steps of hemostasis
- 4.02.20.07 Describe the steps in blood clotting
- 4.02.20.08 Define blood type and explain the effect of blood on transfusion
- 4.02.20.09 List the reasons for transfusions of whole blood and blood components
- 4.02.20.10 Define anemia
- 4.02.20.11 Define leukemia

Science Literacy

- 4.02.20.12 Describe the tests used to study the blood
- 4.02.21.00 Demonstrate knowledge of the heart and heart disease**
- 4.02.21.01 Describe the three layers of the heart
- 4.02.21.02 Name the four chambers of the heart
- 4.02.21.03 Name the valves at the entrance and exit of each ventricle
- 4.02.21.04 Describe blood circulation through the myocardium
- 4.02.21.05 Name the components of the heart's conduction system
- 4.02.21.06 Describe the cardiac cycle
- 4.02.21.07 Explain what produces the two main heart sounds
- 4.02.21.08 Define several terms that describe different heart rates
- 4.02.21.09 Describe several common types of heart disease
- 4.02.21.10 List six areas that might contribute to the prevention of heart disease
- 4.02.21.11 Describe five instruments used to study the heart
- 4.02.21.12 Describe the electric activity of the heart
- 4.02.21.13 Describe three approaches to the treatment of heart diseases
- 4.02.22.00 Demonstrate knowledge of blood vessels and blood circulation**
- 4.02.22.01 Differentiate among the three main types of blood vessels
- 4.02.22.02 Compare the locations and functions of the pulmonary and systemic circuits
- 4.02.22.03 Describe the three coats of the blood vessels
- 4.02.22.04 Name the four sections of the aorta
- 4.02.22.05 Name the main branches of the aorta

Science Literacy

- 4.02.22.06 Define venous sinus
- 4.02.22.07 Name the main vessels that drain into the superior and inferior vena cava
- 4.02.22.08 Describe the structure and function of the hepatic portal system
- 4.02.22.09 Explain how materials are exchanged across the capillary wall
- 4.02.22.10 Describe the factors that regulate blood flow
- 4.02.22.11 Define pulse and list factor that affect pulse rate
- 4.02.22.12 List several factors that affect blood pressure
- 4.02.22.13 Explain how blood pressure is commonly measured
- 4.02.22.14 List some disorders that involve the blood vessels
- 4.02.22.15 List four types of shock
- 4.02.23.00 Demonstrate knowledge of the lymphatic system
- 4.02.23.01 List the three major functions of the lymphatic system
- 4.02.23.02 Explain how lymphatic capillaries differ from blood capillaries
- 4.02.23.03 Name the two main lymphatic ducts and describe the area drained by each
- 4.02.23.04 List the major structures of the lymphatic system
- 4.02.23.05 Describe the composition and function of the reticuloendothelial system
- 4.02.24.00 Demonstrate knowledge of the body defenses, immunity and vaccines
- 4.02.24.01 List the factors that determine the occurrence of infection
- 4.02.24.02 Differentiate between nonspecific and specific body defenses
- 4.02.24.03 Describe the inflammatory reaction

Science Literacy

- 4.02.24.04 List several types of inborn immunity
- 4.02.24.05 Differentiate between natural and artificial immunity
- 4.02.24.06 Differentiate between active and passive immunity
- 4.02.24.07 Define antigen and antibody
- 4.02.24.08 Compare T cells and B cells
- 4.02.24.09 Define the term vaccine
- 4.02.24.10 Define the term immune serum
- 4.02.24.11 List several disorders of the immune system
- 4.02.25.00 Demonstrate knowledge of the respiratory system**
- 4.02.25.01 Define respiration and describe the three phases of respiration
- 4.02.25.02 Name all the structures of the respiratory system
- 4.02.25.03 Explain the mechanism for pulmonary ventilation
- 4.02.25.04 List the ways in which oxygen and carbon dioxide are transported in the blood
- 4.02.25.05 Describe the ways in which respiration is regulated
- 4.02.25.06 List and define the five symptoms of abnormal respiration
- 4.02.25.07 Describe four types of respiratory infection
- 4.02.25.08 Name the diseases involved in chronic obstructive pulmonary disease
- 4.02.26.00 Demonstrate knowledge of the digestive system**
- 4.02.26.01 Name the two main functions of the digestive system
- 4.02.26.02 Describe the four layers of the digestive tract wall
- 4.02.26.03 Describe the layers of the peritoneum

Science Literacy

- 4.02.26.04 Name and describe the organs of the digestive tract
- 4.02.26.05 Name and describe the accessory organs
- 4.02.26.06 List the functions of each organ involved in digestion
- 4.02.26.07 Explain the role of enzymes in digestion
- 4.02.26.08 Name the digestion products of fats, protein, and carbohydrates
- 4.02.26.09 Define absorption
- 4.02.26.10 Define villi and state how villi function in absorption
- 4.02.26.11 Describe how bile functions in digestion
- 4.02.26.12 Name the ducts that carry bile into the digestive tract
- 4.02.26.13 List the main functions of the liver
- 4.02.26.14 Explain the use of feedback in regulating digestion
- 4.02.27.00 Demonstrate knowledge of body fluids**
- 4.02.27.01 Compare intracellular and extracellular fluids
- 4.02.27.02 List four types of extracellular fluids
- 4.02.27.03 Name the systems that are involved in water balance
- 4.02.27.04 Define electrolytes and describe their importance
- 4.02.27.05 Describe three methods for regulating pH of body fluids
- 4.02.27.06 Describe five disorders involving body fluids
- 4.02.27.07 Describe fluids used in therapy
- 4.02.28.00 Demonstrate knowledge of the urinary system**
- 4.02.28.01 List the systems that eliminate waste and name the substances eliminated by each

Science Literacy

- 4.02.28.02 Describe the parts of the urinary system and name the functions of each
- 4.02.28.03 Trace the path of a drop of blood as it flows through the kidney
- 4.02.28.04 Describe the nephron
- 4.02.28.05 Name the four processes involved in urine formation
- 4.02.28.06 Identify the role of ADH in urine formation
- 4.02.28.07 Name two hormones produced by the kidneys
- 4.02.28.08 List five signs of chronic renal failure
- 4.02.28.09 Explain the purpose of kidney dialysis
- 4.02.28.10 Name three normal and six abnormal constituents of urine
- 4.02.29.00 Demonstrate knowledge of the reproductive system
- 4.02.29.01 Name the male and female gonads and describe the function of each
- 4.02.29.02 State the purpose of meiosis
- 4.02.29.03 List the accessory organs of the male and female reproductive tracts and cite the function of each
- 4.02.29.04 Describe the composition and function of semen
- 4.02.29.05 Draw and label a spermatozoon
- 4.02.29.06 List in order the hormones produced during the menstrual cycle and cite the source of each
- 4.02.29.07 Describe the functions of the main male and female sex hormones
- 4.02.29.08 Explain how negative feedback regulates reproductive function in both males and females
- 4.02.29.09 Describe the major disorders of the male and female reproductive tract

Science Literacy

- 4.02.29.10 Describe fertilization and early development of the fertilized egg
- 4.02.29.11 Describe the structure and function of the placenta
- 4.02.29.12 Describe the four stages of labor
- 4.02.29.13 Cite the advantages of breast feeding
- 4.02.29.14 Describe the changes that occur during and after menopause
- 4.02.29.15 Describe contraception and cite the main methods of contraception currently in use

- 4.02.30.00 Demonstrate heredity and hereditary diseases
- 4.02.30.01 Describe the mechanism of gene function
- 4.02.30.02 Explain the difference between dominant recessive genes
- 4.02.30.03 Describe a carrier of genetic trait
- 4.02.30.04 Define meiosis
- 4.02.30.05 Explain how sex is determined in humans
- 4.02.30.06 Describe what is meant by the term sex linked
- 4.02.30.07 List several factors that may influence the expression of a gene
- 4.02.30.08 Define mutation
- 4.02.30.09 Differentiate among congenital, genetic and hereditary disorders
- 4.02.30.10 List several factors that may produce genetic disorders
- 4.02.30.11 Describe several methods used to trait genetic disorders

SOCIAL/CULTURAL LITERACY

Growth of Social, Political, and Economic Institutions

- 5.01.01.00** Describe the role of individuals within their political system, process of voter registration, the election process and responsibility and privileges of citizenship and how law protects individuals
- 5.01.01.01 Consider the importance of registering to vote and voting in a democratic society
- 5.01.01.02 Identify the legal responsibilities of citizenship
- 5.01.01.03 Describe the ways officials can be elected, appointed, or removed from office
- 5.01.01.04 Know the purpose of and qualifications for voting in Ohio's primary and general elections
- 5.01.03.00** Examine important historical documents in context with the American experience including socio-political and ideological influences that shaped their design. (NW Ordinance, Declaration of Independence, Bill of Rights, and Constitution)
- 5.01.03.01 Explain the purpose and contents of the Bill of Rights
- 5.01.03.02 Demonstrate an understanding of federalism (local, state, national)
- 5.01.03.03 Identify the main function of each branch (legislative, executive, judicial) at different levels
- 5.01.03.04 Describe the process for making, amending, or removing laws
- 5.01.03.05 Identify representative symbols: flag, national anthem, Pledge of Allegiance, Independence Day, etc.
- 5.01.03.06 Understand and apply the principles of separation of powers and checks and balances
- 5.01.03.07 Distinguish the constitutional relationship among the several levels of government regarding reserved powers, delegated powers, concurrent powers, elastic clause, and powers denied the government

Social/Cultural Literacy

- 5.01.04.00** Describe the political process
 - 5.01.04.01 Understand the role of political parties in a democracy
 - 5.01.04.02 Understand the role of public officials and how policy is carried out
 - 5.01.04.03 Describe strengths and weaknesses of the American System
 - 5.01.04.04 Describe how resources are gathered to support the process and policies
 - 5.01.04.05 Understand that lawmaking is influenced through formal and informal processes
 - 5.01.04.06 Explain the relationship of public policy to political processes and interpret policy in light of the formal and informal processes taking place within a constitutional framework
 - 5.01.04.07 Explore the relationship which exists between the formal and informal procedures of government as a means to evaluate the role of the citizen in policy making
- 5.01.05.00** Compare and contrast political systems
 - 5.01.05.01 Distinguish characteristics and essential features of representative democracy, monarchy, and dictatorships
 - 5.01.05.02 Identify international governing bodies (e.g., United Nations, League of Nations, World Bank, European Economic Community, Organization of American States, etc.) and their impact
- 5.01.06.00** Compare the culture, customs, and traditions of different ethnic and minority groups in America
 - 5.01.06.01 Be aware of the diverse social, psychological, political, and economic factors which influence lifestyles
 - 5.01.06.02 Evaluate methods and procedures applied by individuals, groups and social agencies to overcome social and economic barriers

Social/Cultural Literacy

- 5.01.06.03 Determine the role of, and conflict between, American values such as order, freedom, equality and individualism as they operate in the American Political System
- 5.01.06.04 Assess the impact of social class and social structure on economic development in specific countries in the First World and in the Third World
- 5.01.06.05 Identify factors which have contributed to America's cultural pluralism, including historical, racial, ethnic, religious, and linguistic backgrounds of this nation's people
- 5.01.06.06 Identify significant features of the 14th Amendment (due process and equal protection of the laws)
- 5.01.07.00 Know that individuals and societies make choices to satisfy wants with limited resources
- 5.01.07.01 Develop an understanding of economic systems
- 5.01.07.02 Develop an understanding of the structure and functions of the American economy
- 5.01.07.03 Recognize the uneven distribution of world resources
- 5.01.07.04 Describe the role of technological growth in economic development and the impact of technology on the physical and human environment
- 5.01.07.05 Compare the benefits and costs of consuming versus saving
- 5.01.07.06 Explain the benefits and costs of investing in human and physical capital and describe how adding new capital resources can increase productivity
- 5.01.07.07 Suggest the impact of savings and credit usage on the economy
- 5.01.07.08 Identify the functions and characteristics of money and suggest acceptable and unacceptable forms of money
- 5.01.07.09 Identify types of financial institutions and explore their roles as intermediaries between households and businesses

Social/Cultural Literacy

- 5.01.07.10 Understand the following economic concepts: 1) individuals and households exchange their resources for the income they need to buy goods and services; 2) individuals and businesses use resources to produce goods and services and generate income; 3) markets allocate goods and services; 4) competition affects markets; 5) local, state, and national governments play important roles in a market economy
- 5.01.07.11 Determine patterns of movement of people, ideas, products, and capital, and identify the linkages that prompt interdependence among people and societies
- 5.01.07.12 Describe human modifications of the physical environment and consider alternative approaches to dealing with the environment
- 5.01.07.13 Examine the impact events in one market may have on other markets and the interdependence of markets
- 5.01.07.14 Identify multinational corporations and assess their role in world economic development and trade
- 5.01.07.15 Relate scarcity and distribution of resources to current issues
- 5.01.07.16 Create alternative scenarios pertaining to current issues to determine the impact of personal and social economic decisions on the allocation of resources

Human Diversity and Historical/Current Issues

- 5.02.01.00 Describe the causes and effects of selected wars
- 5.02.02.00 Describe the diversity of populations encompassing the Civil Rights movement, racism, ethnocentrism, and minority group movements
- 5.02.02.01 Recognize diversity among significant individuals
- 5.02.02.02 Recognize diversity among significant organizations
- 5.02.02.03 Recognize diversity surrounding immigration
- 5.02.02.04 Recognize diverse ethnic and minority groups

Social/Cultural Literacy

- 5.02.02.05 Recognize major world religions
- 5.02.02.06 Describe the relationship between diversity and historical development and contributions
- 5.02.03.00 Describe how an individual interacts with the various societal, economic, and political systems
- 5.02.03.01 Be aware of the diverse social, psychological, political and economic factors which influence lifestyles
- 5.02.03.02 Recognize individuals and societal practices which result in exceptional treatment of people from various backgrounds
- 5.02.03.03 Identify and define the basic concepts of community and community development, and the role of individuals within their political systems and opportunities for civic involvement
- 5.02.03.04 Describe and discuss contemporary domestic and international political issues and events, and evaluate the way they impact on self and society
- 5.02.03.06 Justify proposed solutions to international problems by explaining how the solutions would be acceptable to the parties involved
- 5.02.03.07 Create alternative scenarios to determine the impact and reaction of regions or nations to proposed solutions to current issues

Analyzing Information

- 5.03.01.00 Differentiate between primary and secondary sources of information
- 5.03.02.00 Illustrate that information can be influenced by cultural bias or propaganda
- 5.03.03.00 Analyze and explain social, cultural and political problems and suggest remedies to those problems

Social/Cultural Literacy

- 5.03.03.01 Hypothesize the influence of the past on the present including both the limitations and the opportunities made possible by decisions in the past
- 5.03.03.02 Consider how different choices in the past could have led to different consequences and project how different choices in the present could lead to different consequences
- 5.03.03.03 Use appropriate resources to research antecedent development to current issues
- 5.03.03.04 Project the consequences of different decisions based on past experiences
- 5.03.03.05 Create alternative scenarios pertaining to current issues to determine the impact of proposed solutions on democratic principles
- 5.03.03.06 Explore the roots of prejudice and identify ways of combating prejudice
- 5.03.04.00 Compare and contrast culture, customs and traditions of ethnic and minority groups
- 5.03.05.00 Analyze social forces the influence family life
- 5.03.06.00 Demonstrate the ability to use information that enables citizens to make informed choices
- 5.03.06.01 Use multiple historical narratives to research the connections between current events and their antecedents
- 5.03.06.02 Identify, analyze, and synthesize historians' arguments, explanations, or interpretations of historical events/issues
- 5.03.06.03 Identify, analyze, and synthesize arguments, explanation, or interpretations of antecedent developments to current issues
- 5.03.06.04 Use appropriate resources to research antecedent developments to current issues
- 5.03.06.05 Obtain needed historical data from a variety of sources

Social/Cultural Literacy

- 5.03.06.06 Demonstrate the ability to use information that enables citizens to make informed choices: analyze sources to obtain information; compare and contrast points of agreement and disagreement among sources; evaluate the reliability of available information; identify and weigh alternative viewpoints
- 5.03.06.07 Compare points of agreement and disagreement among sources providing information about civic issues
- 5.03.07.00 Communicate and cooperate with people of different cultural backgrounds
- 5.03.08.00 Collect and analyze information from charts, graphs, maps, and pictures
- 5.03.09.00 Identify and explain how world problems and future trends will impact his or her life
- 5.03.10.00 Describe and discuss world patterns of population, geographic land forms, climate regions, and economic activities
- 5.03.11.00 Identify opportunities for involvement in civic activities
- 5.03.11.01 Explain the importance of and decide upon the best methods for citizen participation in the policy process given a particular set of circumstances
- 5.03.11.02 Participate with others in evaluating public policy and work to achieve consensus on how the policy issues should be addressed
- 5.03.11.03 Distinguish between voluntary efforts that involve monitoring and influencing public policy and those that do not
- 5.03.11.04 Understand that the evolution of democratic principles (e.g., civil rights, widening franchise) can occur through civil disobedience
- 5.03.11.5 Participate in a project designed to serve the community

Social/Cultural Literacy

- 5.03.12.00** Hypothesize the influence of the past on the present including both the limitations and the opportunities made possible by decisions in the past
- 5.03.13.00** Consider how different choices in the past could have led to different consequences and project how different choices in the present could lead to different consequences
- 5.03.14.00** Project the consequences of different decisions based on past experiences

COMPUTER LITERACY

- 10.04.01.00** **Demonstrate knowledge of Computer Literacy I for Windows**
- 10.04.01.01 Explain what a computer is and how it processes data to produce information
- 10.04.01.02 Identify the four operations of the information processing cycle: input, process, output, and storage
- 10.04.01.03 Explain how the operations of the information processing cycle are performed by computer hardware and software
- 10.04.01.04 Describe the elements of an information system: equipment, software, data, personnel, users, and procedures
- 10.04.01.05 Explain the responsibilities of information system personnel
- 10.04.01.06 Explain the use of computers in our world
- 10.04.01.07 Identify the most widely used general microcomputer software applications and their key processing features
- 10.04.01.08 Describe how each application can help users
- 10.04.01.09 Explain integrated software and its advantages
- 10.04.01.10 List and describe the guidelines for purchasing hardware and software packages
- 10.04.01.11 List and describe the learning aids and support tools that help users to use microcomputer applications
- 10.04.01.12 Define the types of inputs and outputs and how the computer uses each type
- 10.04.01.13 Define data and explain the terms used to describe data: field, record, file, database
- 10.04.01.14 Describe the standard features of keyboards, and explain how to use the cursor control and function keys
- 10.04.01.15 Explain the types of terminals and how they are used

Computer Literacy

- 10.04.01.16 Explain user interfaces and list the features that a good user interface should have
- 10.04.01.17 Discuss how data entry differs in interactive and batch processing
- 10.04.01.18 List and explain the systems and procedures associated with data entry
- 10.04.01.19 Explain the term ergonomics and describe some of the important features of good equipment design
- 10.04.01.20 Identify the components of the processor unit and describe their use
- 10.04.01.21 Define a bit and describe how a series of bits in a byte is used to represent characters
- 10.04.01.22 Discuss how the ASCII and EBCDIC codes represent characters
- 10.04.01.23 Discuss the primary factors that affect the speed of the processor unit
- 10.04.01.24 Describe the characteristics of RAM and ROM memory, and list several other types of memory
- 10.04.01.25 List the common types of reports that are used for output
- 10.04.01.26 Describe multimedia
- 10.04.01.27 Describe the features and classifications of printers
- 10.04.01.28 Identify and explain the differences of impact and non-impact printers
- 10.04.01.29 Describe the types of screens available and list common screen features
- 10.04.01.30 Define auxiliary storage
- 10.04.01.31 Describe the forms of auxiliary storage used and how special-purpose storage devices are used
- 10.04.01.32 Explain how data is stored on diskettes, hard disks and tape
- 10.04.01.33 Explain how data stored on magnetic disks can be protected

Computer Literacy

- 10.04.01.34 Explain what data management is and why it is needed
- 10.04.01.35 Describe sequential files, indexed files, and direct (or relative) files
- 10.04.01.36 Explain the difference between sequential and random retrieval of record from a file
- 10.04.01.37 Describe the data maintenance procedures for updating data including adding, changing, and deleting
- 10.04.01.38 Discuss the advantages of a database management system (DBMS)
- 10.04.01.39 Define and describe the basic components of a communications system
- 10.04.01.40 Describe the various transmission media and line configurations used for communication channels
- 10.04.01.41 Identify and explain the communications equipment used in a communications system
- 10.04.01.42 Describe the functions performed by communications software including how data is transmitted
- 10.04.01.43 List the major categories of networks and describe the common network configurations
- 10.04.01.44 Describe how bridges and gateways are used to connect networks
- 10.04.01.45 Define the term management information systems and explain how information is important to an organization
- 10.04.01.46 Discuss the different levels in an organization and how the information requirements differ for each level
- 10.04.01.47 Define the term information system and identify the elements of an information system
- 10.04.01.48 Describe the different types of information systems and the trend toward integration
- 10.04.01.49 Explain how personal computers are used in management information systems

Computer Literacy

- 10.04.01.50 Discuss how electronic devices and applications are used in the automated office
- 10.04.01.51 Describe the technologies that are developing for the automated factory
- 10.04.01.52 Discuss the trend toward computer-integrated enterprise
- 10.04.01.53 Discuss the use of personal computers in the home
- 10.04.01.54 Describe the methods used in computer-aided instruction (CAI)
- 10.04.01.55 Explain the guidelines for purchasing personal computers
- 10.04.01.56 Discuss the social issues relating to computers
- 10.04.01.57 Define data and information
- 10.04.01.58 Describe the use and handling of diskettes and hard disks
- 10.04.01.59 Discuss computer software and explain the difference between application software and system software
- 10.04.01.60 Describe what a graphic user interface (GUI) is
- 10.04.01.61 Identify the elements of a window
- 10.04.01.62 Perform basic mouse operations
- 10.04.01.63 Perform the following window operations; choose a command from a menu; respond to dialogue boxes; name a file; explain what a directory, subdirectory and path are; open, enlarge and scroll a window; and obtain on-line help while using an application

COMMON CORE

Medical Terminology

(Mult 101)

- | | |
|-------------|---|
| 11.01.01.00 | Use common medical symbols, abbreviations and selected English, Latin and Greek equivalents |
| 11.01.01.01 | Identify commonly used medical symbols (e.g. + = acid reaction) |
| 11.01.01.02 | Write out full names of commonly used abbreviations (e.g. Hx = History) |
| 11.01.01.03 | Spell medical terms correctly |
| 11.01.02.00 | Demonstrate knowledge of medical terminology |
| 11.01.02.01 | Define basic prefixes and suffixes |
| 11.01.02.02 | Spell basic prefixes and suffixes |
| 11.01.02.03 | Pronounce basic prefixes and suffixes |
| 11.01.02.04 | Build medical terms from root elements |
| 11.01.02.05 | Identify principal terms relating to the body as a whole |
| 11.01.02.06 | Define terms related to the integumentary system |
| 11.01.02.07 | Define terms related to the skeletal system |
| 11.01.02.08 | Define terms related to the muscular system |
| 11.01.02.09 | Define terms related to the nervous system |
| 11.01.02.10 | Define terms related to the circulatory/cardiovascular system |
| 11.01.02.11 | Define terms related to the lymphatic system |

Common Core

- 11.01.02.12 Define terms related to the respiratory system
- 11.01.02.13 Define terms related to the digestive system
- 11.01.02.14 Define terms related to the endocrine system
- 11.01.02.15 Define terms related to the urinary system
- 11.01.02.16 Define terms related to the reproductive system
- 11.01.02.17 Define terms related to the senses
- 11.01.02.18 Define terms related to immunology
- 11.01.02.19 Define terms related to pathology

Recommended Assessment: Dean Vaughn Medical Test in correlation with the Dean Vaughn Medical Terminology 350 Instructional System.

Employability Skills

- 11.02.01.00 Investigate career options
- 11.02.01.01 Determine interests and aptitudes
- 11.02.01.02 Identify career options
- 11.02.01.03 Research occupations matching interests and aptitudes
- 11.02.01.04 Select career(s) that best match(es) interests and aptitudes
- 11.02.01.05 Identify advantages and disadvantages of career options, including nontraditional careers, hours of work, offshift, weekends, and holidays
- 11.02.01.06 Assess differences in wages, annual incomes, and job opportunities based on geographical location
- 11.02.01.07 Develop a career plan

Common Core

- 11.02.02.00** Analyze potential barriers to employment
 - 11.02.02.01 Identify common barriers to employment
 - 11.02.02.02 Describe strategies to overcome employment barriers

- 11.02.03.00** Apply decision-making techniques in the workplace
 - 11.02.03.01 Identify the decision to be made
 - 11.02.03.02 Compare alternatives
 - 11.02.03.03 Determine consequences of each alternative
 - 11.02.03.04 Make decisions based on values and goals
 - 11.02.03.05 Evaluate the decision made

- 11.02.04.00** Apply problem-solving techniques in the workplace
 - 11.02.04.01 Diagnose the problem and its causes
 - 11.02.04.02 Identify alternatives and their consequences in relation to the problem
 - 11.02.04.03 Examine multicultural and nonsexist dimensions of problem solving
 - 11.02.04.04 Utilize resources to explore possible solutions to the problem
 - 11.02.04.05 Compare and contrast the advantages and disadvantages
 - 11.02.04.06 Determine appropriate action
 - 11.02.04.07 Evaluate results

- 11.02.05.00** Evaluate the relationship of self-esteem to work ethic
 - 11.02.05.01 Identify special characteristics and abilities in self and others
 - 11.02.05.02 Identify internal and external factors that affect self-esteem

Common Core

- 11.02.06.00** **Analyze the relationship of personal values and goals to work ethic in and out of the workplace**
- 11.02.06.01 Distinguish between values and goals
- 11.02.06.02 Determine the importance of values and goals
- 11.02.06.03 Evaluate how values affect goals
- 11.02.06.04 Identify short-term and long-term goals
- 11.02.06.05 Prioritize personal goals
- 11.02.06.06 Describe how personal values are reflected in work ethic
- 11.02.06.07 Describe how interactions in the workplace affect personal work ethic
-
- 11.02.07.00** **Demonstrate work ethic**
- 11.02.07.01 Examine factors that influence work ethic
- 11.02.07.02 Exhibit characteristics that reflect an appropriate work ethic
-
- 11.02.08.00** **Prepare for employment**
- 11.02.08.01 Identify traditional and nontraditional employment sources
- 11.02.08.02 Utilize employment sources
- 11.02.08.03 Research job opportunities, including nontraditional careers
- 11.02.08.04 Interpret equal employment opportunity laws
- 11.02.08.05 Explain the critical importance of personal appearance, hygiene, and demeanor throughout the employment process
- 11.02.08.06 Prepare for generic employment tests and those specific to an occupation/organization

Common Core

- 11.02.09.00** **Design a resume**
- 11.02.09.01 Identify personal strengths and weaknesses
- 11.02.09.02 List skills and/or abilities, career objective(s), accomplishments/achievements, educational background, and work experience
- 11.02.09.03 Demonstrate legible written communication skills using correct grammar, spelling, and concise wording
- 11.02.09.04 Complete resume using various formats
- 11.02.09.05 Secure references
- 11.02.10.00** **Complete and process job application forms**
- 11.02.10.01 Explain the importance of an application form
- 11.02.10.02 Identify ways to obtain job application forms
- 11.02.10.03 Describe methods for handling illegal questions on job application forms according to EOE regulations
- 11.02.10.04 Demonstrate legible written communication skills using correct grammar, spelling, and concise wording following EOE guidelines
- 11.02.10.05 Return application to proper person, request interview, and follow up
- 11.02.11.00** **Demonstrate interviewing skills**
- 11.02.11.01 Investigate interview environment and procedures
- 11.02.11.02 Explain the critical importance of personal appearance, hygiene, and demeanor
- 11.02.11.03 Demonstrate question and answer techniques
- 11.02.11.04 Demonstrate methods for handling difficult and/or illegal interview questions

Common Core

11.02.12.00 Secure employment

11.02.12.01 Identify present and future employment opportunities within an occupation/organization

11.02.12.02 Research the organization/company

11.02.12.03 Use follow-up techniques to enhance employment potential

11.02.12.04 Compare and evaluate job offers

11.02.13.00 Analyze the organizational structure of the workplace

11.02.13.01 Identify and evaluate employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene

11.02.13.02 Be aware of and obey all company policies and procedures

11.02.13.03 Examine the role/relationship between employee and employer

11.02.13.04 Recognize opportunities for advancement and reasons for termination

11.02.14.00 Maintain positive relations with others

11.02.14.01 Exhibit appropriate work habits and attitude

11.02.14.02 Identify behaviors to establish successful working relationships

11.02.14.03 Cooperate and compromise through teamwork and group participation

11.02.14.04 Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age

11.02.15.00 Analyze opportunities for personal and career growth

11.02.15.01 Determine opportunities within an occupation/organization

11.02.15.02 Compare and contrast other opportunities

Common Core

- 11.02.15.03 List benefits of job advancement
- 11.02.15.04 Evaluate factors involved when assuming a new position within or outside an occupation/organization

- 11.02.16.00 Exhibit characteristics needed for advancement
- 11.02.16.01 Display a positive attitude
- 11.02.16.02 Demonstrate knowledge of a position
- 11.02.16.03 Perform quality work
- 11.02.16.04 Adapt to changing situations and technology
- 11.02.16.05 Demonstrate capability for different positions
- 11.02.16.06 Participate in continuing education/training programs
- 11.02.16.07 Respect, accept, and work with ALL individuals in the workplace

- 11.02.17.00 Assess the impact of technology in the workplace
- 11.02.17.01 Cite how past business/industry practices have influenced present business/industry processes
- 11.02.17.02 Investigate the use of technology in the workplace
- 11.02.17.03 Analyze how present skills can be applied to learning new technologies

- 11.02.18.00 Use a variety of technological applications
- 11.02.18.01 Explore basic mathematical, scientific, computer, and technological principles
- 11.02.18.02 Use technology to accomplish assigned tasks
- 11.02.18.03 Create solutions to problems using technical means

Common Core

- 11.02.19.00 Apply lifelong learning to individual situations
- 11.02.19.01 Define lifelong learning
- 11.02.19.02 Identify factors that cause the need for lifelong learning

- 11.02.20.00 Adapt to change
- 11.02.20.01 Analyze the effect of change
- 11.02.20.02 Identify reasons why goals change
- 11.02.20.03 Describe the importance of flexibility when reevaluating goals
- 11.02.20.04 Evaluate the need for continuing education/training

- 11.02.21.00 Analyze global enterprise system
- 11.02.21.01 Identify characteristics of various enterprise system
- 11.02.21.02 Examine the relationship between competition, risk, and profit
- 11.02.21.03 Illustrate how supply and demand influence price

- 11.02.22.00 Evaluate personal money management
- 11.02.22.01 Describe the need for personal management records
- 11.02.22.02 Identify methods of taxation
- 11.02.22.03 Analyze how credit affects financial security
- 11.02.22.04 Compare types and methods of investments
- 11.02.22.05 Prepare a personal budget
- 11.02.22.06 Be an informed and responsible consumer

Common Core

- 11.02.22.07 Analyze the effects of advertising on the consumer
- 11.02.23.00 Analyze the effects of family on work
- 11.02.23.01 Recognize how family values, goals, and priorities are reflected in the workplace
- 11.02.23.02 Identify present and future family structures and responsibilities
- 11.02.23.03 Describe personal and family roles
- 11.02.23.04 Analyze concerns of parents who work outside the home
- 11.02.23.05 Examine how family responsibilities can conflict with work
- 11.02.23.06 Resolve family-related conflicts
- 11.02.23.07 Explain how to use support systems/community resources to help resolve family-related conflict
- 11.02.24.00 Analyze the effects of work on family
- 11.02.24.01 Identify responsibilities associated with paid and nonpaid work
- 11.02.24.02 Compare the advantages and disadvantages of multiple incomes
- 11.02.24.03 Explain how work can conflict with family responsibilities
- 11.02.24.04 Explain how work-related stress can affect families
- 11.02.24.05 Identify family support systems and resources
- 11.02.24.06 Identify stress management options to alleviate occupational "burnout"
- 11.02.25.00 Exercise the rights and responsibilities of citizenship in the workplace
- 11.02.25.01 Identify the basic rights and responsibilities of citizenship
- 11.02.25.02 Examine the history and contributions of all racial, ethnic, and cultural groups

Common Core

- 11.02.26.00** Cooperate with others in the workplace
 - 11.02.26.01 Identify situations in which compromise is necessary
 - 11.02.26.02 Examine how individuals from various backgrounds contribute to work-related situations
 - 11.02.26.03 Demonstrate initiative to facilitate cooperation
 - 11.02.26.04 Give and receive constructive criticism to enhance cooperation
- 11.02.27.00** Evaluate leadership styles appropriate for the workplace
 - 11.02.27.01 Identify characteristics of effective leaders
 - 11.02.27.02 Compare leadership styles including non-traditional "coaching"
 - 11.02.27.03 Demonstrate effective delegative skills
 - 11.02.27.04 Identify opportunities to lead in the workplace
- 11.02.28.00** Demonstrate effective teamwork skills
 - 11.02.28.01 Identify the responsibilities of a valuable group member
 - 11.02.28.02 Exhibit open-mindedness
 - 11.02.28.03 Identify methods of involving each member of a team
 - 11.02.28.04 Contribute to the efficiency and success of a group
 - 11.02.28.05 Determine ways to motivate others
 - 11.02.28.06 Explain the advantage of team decisions
 - 11.02.28.07 Prepare and plan an agenda
 - 11.02.28.08 Develop a plan of action
 - 11.02.28.09 Assess success or failure of team

Common Core

- 11.02.29.00** Utilize effective communication skills
 - 11.02.29.01 Identify the importance of active listening
 - 11.02.29.02 Demonstrate assertive communication
 - 11.02.29.03 Recognize the importance of verbal and nonverbal cues and messages
 - 11.02.29.04 Analyze written material
 - 11.02.29.05 Prepare written material
 - 11.02.29.06 Give and receive feedback
 - 11.02.29.07 Articulate thoughts
 - 11.02.29.08 Use appropriate language
 - 11.02.29.09 Demonstrate the value of networking
- 11.02.30.00** Evaluate the role of small business in the economy
 - 11.02.30.01 Identify the benefits of small business to a community
 - 11.02.30.02 Analyze opportunities for small business in a community
- 11.02.31.00** Examine considerations of starting a business
 - 11.02.31.01 Research a business idea
 - 11.02.31.02 Compare various ways to become a small business owner
 - 11.02.31.03 Investigate factors to consider in financing a new business
 - 11.02.31.04 Evaluate entrepreneurship as a career option

Common Core

Insurance

- 11.03.01.00** **Secure fidelity of bonding**
- 11.03.01.01 Identify need for fidelity of bonding
- 11.03.01.02 Complete application for fidelity of bonding

- 11.03.02.00** **Identify requirements of payment system**
- 11.03.02.01 Identify and follow required procedures for private carriers
- 11.03.02.02 Identify and follow required procedures for noninsured patients
- 11.03.02.03 Identify and follow required procedures for Health Maintenance Organization (HMO)
- 11.03.02.04 Identify and follow required procedures for Preferred Provider Organization (PPO)
- 11.03.02.05 Identify and follow required procedures for Independent Practitioner Association (IPA)
- 11.03.02.06 Identify and follow required procedures for U.S. government employees (CHAMPUS)
- 11.03.02.07 Identify and follow required procedures for Aid to Dependent Children (ADC)
- 11.03.02.08 Identify and follow required procedures for general assistance (GA)
- 11.03.02.09 Identify and follow required procedures for medicare
- 11.03.02.10 Identify and follow required procedures for medicaid

- 11.03.03.00** **Identify procedure for diagnostic coding**
- 11.03.03.01 Complete forms for proper coding of international classification of diseases (ICD-9 CM)

Common Core

- 11.03.03.02 Complete forms for proper coding of current procedural terminology (CPT)
- 11.03.03.03 Complete forms for proper coding of health care procedural code (HCPC)
- 11.03.03.04 Complete forms for proper coding of diagnostic related groups (DRG)

Career Exploration

- 11.04.01.00 Demonstrate knowledge of the basic forms of medical practices
- 11.04.01.01 Define Sole Proprietorship
- 11.04.01.02 Define Associate Practice
- 11.04.01.03 Define Group Practice
- 11.04.01.04 Define Partnership
- 11.04.01.05 Define Professional Corporation
- 11.04.02.00 Demonstrate knowledge of medical care delivery
- 11.04.02.01 Define General and Family Practice
- 11.04.02.02 Define Prepaid Comprehensive Care
- 11.04.02.03 Define Specialty Practice
- 11.04.02.04 Define Preventive Medicine
- 11.04.02.05 Define Public Health
- 11.04.03.00 Demonstrate knowledge of specialties of medicine
- 11.04.03.01 Define Aerospace Medicine
- 11.04.03.02 Define Allergy and Immunology

Common Core

11.04.03.03	Define Anesthesiology
11.04.03.04	Define Dermatology
11.04.03.05	Define Emergency Medicine
11.04.03.06	Define Family Practice
11.04.03.07	Define Internal Medicine
11.04.03.08	Define Neurology
11.04.03.09	Define Nuclear Medicine
11.04.03.10	Define Obstetrics and Gynecology
11.04.03.11	Define Ophthalmology
11.04.03.12	Define Otolaryngology
11.04.03.13	Define Pathology
11.04.03.14	Define Pediatrics
11.04.03.15	Define Physical Medicine and Rehabilitation
11.04.03.16	Define Preventive Medicine
11.04.03.17	Define Psychiatry
11.04.03.18	Define Radiology
11.04.03.19	Define Surgery
11.04.03.20	Define Urology
11.04.04.00	Demonstrate knowledge of allied health professions
11.04.04.01	Describe the role of the Anesthesiologist's Assistant
11.04.04.02	Describe the role of the Cardiovascular Technologist
11.04.04.03	Describe the role of the Cytotechnologist

Common Core

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| 11.04.04.04 | Describe the role of the Diagnostic Medical Sonographer |
| 11.04.04.05 | Describe the role of the Emergency Medical Technician |
| 11.04.04.06 | Describe the role of the Paramedic |
| 11.04.04.07 | Describe the role of the Electroneurodiagnostic Technologist |
| 11.04.04.08 | Describe the role of the Histologic Technician/Technologist |
| 11.04.04.09 | Describe the role of the Medical Assistant |
| 11.04.04.10 | Describe the role of the Medical Illustrator |
| 11.04.04.11 | Describe the role of the Medical Laboratory Technician |
| 11.04.04.12 | Describe the role of the Medical Records Administrator |
| 11.04.04.13 | Describe the role of the Medical Technologist |
| 11.04.04.14 | Describe the role of the Nuclear Medicine Technologist |
| 11.04.04.15 | Describe the role of the Ophthalmic Medical Technologist |
| 11.04.04.16 | Describe the role of the Occupational Therapist |
| 11.04.04.17 | Describe the role of the Physician's Assistant |
| 11.04.04.18 | Describe the role of the Perfusionist/Phlebotomist |
| 11.04.04.19 | Describe the role of the Radiographer |
| 11.04.04.20 | Describe the role of the Radiation Therapy Technician |
| 11.04.04.21 | Describe the role of the Respiratory Technician |
| 11.04.04.22 | Describe the role of the Surgeon's Assistant |
| 11.04.04.23 | Describe the role of the Specialist in Blood Bank Technology |
| 11.04.04.24 | Describe the role of the Surgical Technologist |

Common Core

- 11.04.05.00** Demonstrate knowledge of members of the health care team
- 11.04.05.01 Describe the role of the EKG technician
- 11.04.05.02 Describe the role of the Medical Technologist
- 11.04.05.03 Describe the role of the Certified Medical Transcriptionist
- 11.04.05.04 Describe the role of the Translator
- 11.04.05.05 Describe the role of the Licensed Practical Nurse/Licensed Vocational Nurse
- 11.04.05.06 Describe the role of the Registered Nurse
- 11.04.05.07 Describe the role of the Nurse Practitioner

Medical Law and Ethics

- 11.05.01.00** Practice personal professional protocol with the medical community
- 11.05.01.01 List licensure requirements for physicians
- 11.05.01.02 Describe methods of licensure
- 11.05.01.03 List exceptions to the need for licensure
- 11.05.01.04 Define the components of public law and private law
- 11.05.01.05 Recognize the differences between ethics and law
- 11.05.01.06 Describe the reason diagnostic related groups are causing an ethical issue for physicians
- 11.05.01.07 Name one societal group denied health insurance
- 11.05.01.08 Comply with tax requirements
- 11.05.01.09 Maintain integrity of personal files
- 11.05.01.10 Be aware of statute of limitation
- 11.05.01.11 Identify ownership of medical records

Common Core

- 11.05.02.00 Practice personal professional responsibilities**
- 11.05.02.01 Participate in professional associations
- 11.05.02.02 Participate in professional development inservices
- 11.05.03.00 Practice personal professional protocol with regard to patient issues**
- 11.05.03.01 Inform patient of truth of lending law
- 11.05.03.02 Inform patient of anatomical gift act
- 11.05.03.03 List and define the three categories of medical transplants
- 11.05.03.04 Name the most common transplant
- 11.05.03.05 Name four examples of tort law
- 11.05.03.06 Define the term emancipated minor
- 11.05.03.07 Describe the three parts of a physician-patient contract
- 11.05.03.08 Define the terms implied consent and express consent
- 11.05.03.09 Define the term privileged communication
- 11.05.03.10 List instances of legally required disclosure
- 11.05.03.11 Explain the terms defamation of character, libel and slander
- 11.05.03.12 Describe the conditions for revocation or suspension of a medical license
- 11.05.03.13 Inform patient of living will
- 11.05.03.14 Explain informed consent
- 11.05.03.15 Explain reasons for termination of patient services
- 11.05.03.16 Inform patient about noncompliance with physician's recommendations
- 11.05.03.17 Inform patient about remuneration

Common Core

- 11.05.03.18 Inform patient of impact of communicable diseases
- 11.05.03.19 List ethical considerations surrounding the life of a fetus
- 11.05.04.00 Demonstrate knowledge of professional liability
- 11.05.04.01 List rights of the physician in providing medical care
- 11.05.04.02 List rights of the patient receiving medical care
- 11.05.04.03 Define and give examples of abandonment
- 11.05.04.04 Define and give examples of professional negligence
- 11.05.04.05 Give an example of implied agreement
- 11.05.04.06 Describe the precaution that should be observed in giving written instructions to patients
- 11.05.04.07 List the reasons for keeping medical records
- 11.05.04.08 List the record keeping necessary to provide legally adequate records
- 11.05.04.09 Name the six basic principles for preventing unauthorized disclosure of patient information
- 11.05.04.10 Describe the acceptable method for making changes in medical records
- 11.05.05.00 Demonstrate knowledge of legal issues as defined by the NATP
- 11.05.05.01 Define terms associated with legal responsibilities
- 11.05.05.02 Identify types of lawsuits prevalent in health care facilities
- 11.05.05.03 Identify precautions to take against a civil lawsuit
- 11.05.05.04 Identify types of litigation that could apply to selected case situations
- 11.05.05.05 Identify reporting and recording process for abuse, neglect, and/or mistreatment of consumer
- 11.05.05.06 Identify the purpose of the incident/accident reports

Common Core

- 11.05.05.07 Identify types of incidents that must be reported
- 11.05.05.08 Complete report for incidents involving clients, visitors, and/or health care staff
- 11.05.05.09 Identify responsibility regarding negligent behavior
- 11.05.05.10 Discuss the importance of keeping the client's personal information confidential
- 11.05.05.11 Discuss the health care worker's responsibility for his/her own actions

Quality Assurance

- 11.06.01.00 Maintain control system(s)
- 11.06.01.01 Perform peer review
- 11.06.01.02 Perform calibration and proficiency testing of equipment
- 11.06.01.03 Use standards and controls to check precision and accuracy of laboratory equipment
- 11.06.01.04 Perform record(s) audits
- 11.06.01.05 Discard outdated reagents
- 11.06.01.06 Follow all procedures exactly to test specimen
- 11.06.01.07 Perform test in duplicate
- 11.06.01.08 Periodically check the accuracy of the test results with a reference laboratory (proficiency testing)
- 11.06.02.00 Perform risk management
- 11.06.02.01 Maintain patient follow-up system (e.g. tickler file)
- 11.06.02.02 Participate in continuing education

Common Core

- 11.06.03.00** **Maintain documentation records**
- 11.06.03.01 Establish criteria for Quality Health Care in each specialty, e.g.:
Nursing, Clinical Laboratory, Pharmacy, X-Ray, EKG, Respiratory
Therapy, Physical Therapy
- 11.06.03.02 Graph/chart quality control activities
- 11.06.03.03 Perform/document maintenance of equipment and other non
expendables
- 11.06.03.04 Maintain patient records
- 11.06.04.00** **Establish a quality assurance program stipulating policies and
procedures for performance, documentation and validation of patient
care and test results**
- 11.06.04.01 Maintain temperature logs
- 11.06.04.02 Perform routine maintenance and checks of equipment used by
patients and equipment used for testing
- 11.06.04.03 Where applicable perform controls and standards to validate test
results and maintain documentation of same
- 11.06.04.04 Participate in a proficiency testing program to document validity of
patient tests results in accordance with CLIA 88

Hazard Management

- 11.07.01.00** **Identify environmental safety hazards, accident prevention methods
and disaster plans**
- 11.07.01.01 Identify environment of local health care settings
- 11.07.01.02 Follow environmental safety rules of facility
- 11.07.01.03 Identify fire prevention methods, fire control, fire alarm systems and
fire reporting procedures

Common Core

- 11.07.01.04 Demonstrate use of fire extinguisher
- 11.07.01.05 Identify facility disaster plan
- 11.07.01.06 Follow safety precautions for using equipment
- 11.07.01.07 Follow safety precautions for using liquids and poisonous substances
- 11.07.01.08 Identify and correct safety hazards
- 11.07.01.09 Write incident reports for accidents or safety infractions
- 11.07.01.10 Identify legal implications of accidents in health care facilities

- 11.07.02.00 Demonstrate application of patient/client safety principles
- 11.07.02.01 Identify chemical, physical and environmental restraints
- 11.07.02.02 Identify instances in which restraints are used
- 11.07.02.03 Identify ways to minimize need for physical or chemical restraints
- 11.07.02.04 Identify safety rules pertaining to patient's activity

- 11.07.03.00 Demonstrate principles of body mechanics and ergonomics
- 11.07.03.01 Identify principles of ergonomics
- 11.07.03.02 Demonstrate proper mechanics in lifting, moving, transferring, ambulating and positioning a patient
- 11.07.03.03 Identify common causes of back injuries

- 11.07.04.00 Comply with state and federal regulations
- 11.07.04.01 Comply with Occupational Safety and Health Administration (OSHA) regulations
- 11.07.04.02 Comply with Environmental Protection Agency (EPA) regulations

Common Core

- 11.07.04.03 Report communicable diseases to local health authorities as specified by CLIA 88
- 11.07.05.00 **Maintain personal safety and hygiene**
 - 11.07.05.01 Wear uniform and/or professional attire
 - 11.07.05.02 Practice proper hygiene
 - 11.07.05.03 Become immunized against communicable diseases
 - 11.07.05.04 Complete incident reports as required
 - 11.07.05.05 Demonstrate safe and effective sterilizing methods for instruments and equipment
- 11.07.06.00 **Dispose of waste materials in compliance with government regulations**
 - 11.07.06.01 Practice safe, sanitary, and sterile procedures
 - 11.07.06.02 Dispose of paper and plastic supplies and gloves
 - 11.07.06.03 Dispose of infectious waste
 - 11.07.06.04 Dispose of controlled substances
 - 11.07.06.05 Handle and properly dispose of needles, glass and sharp instruments

Infection Control

- 11.08.01.00 **Demonstrate general principles of asepsis**
- 11.08.01.01 Define infection control terms
- 11.08.01.02 Identify modes of transmission for infection
- 11.08.01.03 Identify common communicable diseases and modes of transmission
- 11.08.01.04 Identify physical symptoms, treatment, and prevention of infection

Common Core

- 11.08.01.05 Demonstrate universal precautions
- 11.08.01.06 Identify different aseptic techniques

- 11.08.02.00 Demonstrate hand-washing technique
- 11.08.02.01 Identify times when hands should be washed
- 11.08.02.02 Demonstrate each step of hand-washing procedure

- 11.08.03.00 Practice universal precautions against infection
- 11.08.03.01 Wear appropriate protective clothing and devices
- 11.08.03.02 Demonstrate hand-washing technique
- 11.08.03.03 Perform terminal disinfection

- 11.08.04.00 Demonstrate isolation technique
- 11.08.04.01 Identify different types of isolation
- 11.08.04.02 Demonstrate mask and gown technique
- 11.08.04.03 Demonstrate double bagging technique
- 11.08.04.04 Demonstrate procedures for disposal of soiled materials

- 11.08.05.00 Maintain infection control of work area
- 11.08.05.01 Contain used linens
- 11.08.05.02 Clean and disinfect sink
- 11.08.05.03 Clean and disinfect counter surfaces
- 11.08.05.04 Clean and disinfect examination tables
- 11.08.05.05 Check floors

Common Core

- 11.08.06.00 Apply principles of aseptic techniques and sterility of medical equipment and instruments
- 11.08.06.01 Read and follow manufacturer's instructions for safe operations of all equipment and instruments
- 11.08.06.02 Apply and maintain infection control in cabinets and drawers
- 11.08.06.03 Prescrub instruments
- 11.08.06.04 Sterilize instruments
- 11.08.06.05 Store sterilized equipment and supplies
- 11.08.06.06 Maintain quality-control log

HIV/AIDS Education

(Mult 171)

- 11.09.01.00 Demonstrate knowledge of the essential facts about HIV and AIDS and the virus
- 11.09.01.01 Define "HIV"
- 11.09.01.02 Define "AIDS"
- 11.09.01.07 Define the "Immune System"
- 11.09.01.09 Define "Antibodies"
- 11.09.01.10 Discuss what happens when someone gets the virus that causes AIDS
- 11.09.01.12 Explain the incubation period for AIDS
- 11.09.01.13 Discuss how AIDS is diagnosed
- 11.09.01.16 Discuss how long the virus survives outside the body
- 11.09.01.17 Define "Opportunistic Infections"

Common Core

- 11.09.02.00 Demonstrate knowledge of the essential facts about HIV and AIDS and transmission and prevention**
- 11.09.02.01 Explain how AIDS is spread
- 11.09.02.09 Discuss the risks of health care workers getting AIDS on the job
- 11.09.02.10 Discuss the risks of being a patient in a doctor's or dentist's office
- 11.09.02.11 Explain universal precautions
- 11.09.02.12 Identify the steps to cleaning up blood spills on the floor
- 11.09.02.27 Identify the steps to cleaning needles guarding against AIDS
- 11.09.02.28 Identify the drugs associated with getting AIDS
- 11.09.02.29 Discuss the risks of sharing needles and syringes for the I-V drug user
- 11.09.02.30 Discuss AIDS and saliva, tears, urine and feces
- 11.09.02.31 Recognize the risks of AIDS and human bites
- 11.09.03.00 Demonstrate knowledge of the essential facts about HIV and AIDS and casual contact**
- 11.09.03.01 Recognize the fact that you cannot get AIDS from casual contact such as sharing a drinking glass, public toilets, drinking fountains, telephones, public transportation, swimming pools, hugging or touching
- 11.09.04.00 Demonstrate knowledge of the essential facts about HIV and AIDS - getting tested**
- 11.09.04.01 Discuss when someone should get tested to find out if they are infected
- 11.09.04.02 Define "Confidential Testing"
- 11.09.04.03 Define "Anonymous Testing"

Common Core

- 11.09.04.04 Identify where people can get tested
- 11.09.04.05 Identify the time period between exposure and testing
- 11.09.05.00 Demonstrate knowledge of the essential facts about HIV and AIDS and the blood supply and related issues
- 11.09.05.01 Discuss the facts of donating blood and AIDS
- 11.09.05.02 Discuss the risks of blood transfusions
- 11.09.05.03 Identify the procedures taken by the Red Cross to protect the blood supply
- 11.09.06.00 Demonstrate knowledge of the essential facts about HIV and AIDS and children with HIV
- 11.09.06.01 Explain how babies and young children get AIDS
- 11.09.06.03 Discuss the probability of a baby testing positive meaning that he or she has HIV
- 11.09.06.04 Discuss how soon you can test a baby for HIV
- 11.09.06.08 Explain that AIDS is not transmitted in children through vomit, urine or feces
- 11.09.06.09 Identify that there is no risk of getting AIDS from a child through contact sports unless there is blood involved
- 11.09.07.00 Demonstrate knowledge of the essential facts about HIV and AIDS and the social impact
- 11.09.07.01 Identify the laws protecting people with AIDS from discrimination
- 11.09.07.02 Identify the federal and state laws protecting a person with AIDS from being fired from their job
- 11.09.07.03 Recognize how AIDS affects the workplace

Common Core

- 11.09.07.05 Discuss testing the health care worker for AIDS
- 11.09.07.06 Define "Needle-Exchange" programs

- 11.09.08.00 Identify additional facts about the AIDS virus
- 11.09.08.01 Define "ARC"
- 11.09.08.02 Explain AIDS-related complex
- 11.09.08.09 Identify the changes made recently in the way the CDC defines AIDS
- 11.09.08.13 Define "HIV-2"
- 11.09.08.14 Discuss the second HIV virus
- 11.09.08.21 Define "Pneumocystic Carinii"
- 11.09.08.22 Define "Kaposi's Sarcoma"
- 11.09.08.23 Explain how AZT works

- 11.09.09.00 Identify additional facts about transmission and prevention of AIDS
- 11.09.09.02 Discuss the "Risk not reported or identified" category
- 11.09.09.11 Define "nonoxynol-9"
- 11.09.09.12 Define "Parenteral Transmission"
- 11.09.09.14 Explain why crack is associated with AIDS
- 11.09.09.17 Explain why police and firefighters wear gloves when dealing with people who might have AIDS

- 11.09.10.00 Identify additional facts about testing and AIDS
- 11.09.10.01 Explain how you test for AIDS

Common Core

- 11.09.10.02 Discuss the effectiveness of the antibody blood tests
- 11.09.10.03 Explain why people are counseled before and after testing
- 11.09.11.00 Identify additional facts about blood supply and related services and AIDS
- 11.09.11.01 Discuss freezing blood and the effect on HIV
- 11.09.11.02 Discuss storing blood and the effect on HIV
- 11.09.11.03 Explain the development of antibodies to HIV after blood is collected
- 11.09.11.04 Identify the risks of becoming infected from a transfusion
- 11.09.11.11 Explain the process of screening for AIDS in a sperm bank
- 11.09.11.12 Explain the process of screening for AIDS in an organ bank
- 11.09.11.13 Discuss AIDS and the hepatitis B vaccine
- 11.09.12.00 Identify additional facts about children with HIV infection
- 11.09.12.05 Define "Perinatal transmission"
- 11.09.12.12 Explain why some babies of infected mothers get HIV
- 11.09.12.13 Discuss the risk of an HIV infected mother giving it to the baby
- 11.09.12.15 Discuss the difference of AIDS in babies and children compared to AIDS in adults
- 11.09.12.18 Explain the types of medicine doctors give children with HIV
- 11.09.12.19 Discuss children with AIDS and vaccinations
- 11.09.13.00 Identify additional facts about the social impact of HIV infection
- 11.09.13.01 Discuss the costs of medical care for a person who has AIDS

Common Core

- 11.09.13.02 Discuss what might change the estimates of future medical costs of AIDS
- 11.09.13.04 Recognize the difficulty people with AIDS have getting new health insurance
- 11.09.13.05 Discuss the kinds of medical care for people with AIDS covered by Medicaid
- 11.09.13.07 Explain how the federal government divides up money for different AIDS activities
- 11.09.13.08 Discuss testing patients for HIV for the protection of the health care worker

- 11.09.14.00 Identify additional facts about first aid, CPR and aquatics and AIDS
- 11.09.14.01 Discuss the safety in the use of manikins during CPR
- 11.09.14.02 Explain the decontamination process of the manikins for HIV
- 11.09.14.06 Recognize the person with AIDS as being a candidate for certification of CPR
- 11.09.14.07 Discuss modifying the First Aid and CPR requirements with the employer for the safety of all persons
- 11.09.14.08 Discuss the risks involved in performing CPR on someone when you are infected with HIV
- 11.09.14.09 Discuss the risks of becoming infected with HIV from receiving CPR from a person who is HIV infected
- 11.09.14.10 Discuss the personal, moral and ethical considerations, not legal obligations, of helping someone who is bleeding who might have AIDS
- 11.09.14.11 Recognize the risks of being a member of a First Aid team and contacting AIDS

Recommended Assessment: American Red Cross Certification

Common Core

Community First Aid and Safety

(Mult 102, Mult 103)

- 11.10.01.00 Respond as a citizen and help in an emergency
- 11.10.01.01 Recognize an emergency
- 11.10.01.02 List the 3 general steps in the emergency plan
- 11.10.01.03 Call EMS and give necessary information
- 11.10.01.04 Demonstrate how to check a conscious or an unconscious victim

- 11.10.02.00 Respond to a breathing cardiac emergency in an adult
- 11.10.02.01 List the signals of a breathing emergency
- 11.10.02.02 List the signals of a heart emergency
- 11.10.02.03 Demonstrate how to care for a person who is not breathing
- 11.10.02.04 Demonstrate how to care for a person who is choking
- 11.10.02.05 Demonstrate how to care for a person who is in cardiac arrest
- 11.10.02.06 List four risk factors associated with increased incidence of cardiovascular disease

- 11.10.03.00 Respond to a breathing or cardiac emergency in infants and children
- 11.10.03.01 List at least 4 signals of a breathing emergency for an infant child
- 11.10.03.02 Demonstrate how to care for an infant or child who is not breathing
- 11.10.03.03 Demonstrate how to care for an infant or child who is choking
- 11.10.03.04 Demonstrate how to care for an infant or child whose heart has stopped
- 11.10.03.05 List the four leading causes of childhood death

Common Core

- 11.10.03.06 List three ways to help prevent childhood injuries
- 11.10.04.00 Recognize and care for victims of illness and sudden injuries
- 11.10.04.01 Recognize an injury or sudden illness
- 11.10.04.02 Demonstrate how to control bleeding
- 11.10.04.03 Demonstrate how to care for muscle, bone, and joint injuries
- 11.10.04.04 Describe how to care for sudden illnesses
- 11.10.04.05 List the general care steps for burns

Recommended Assessment: American Red Cross Adult CPR; American Red Cross Infant CPR; American Red Cross Standard First Aid; and American Heart Association Basic Life Support C for the Health Care Provider.

Nurse Aide Training Program

(Multi 120)

- 11.11.01.00 Introduce the NATP
- 11.11.01.01 Identify the purpose of the NATP
- 11.11.01.02 List the role and responsibility of the trainer and NA
- 11.11.01.03 State the purpose of the CEP conducted by the director
- 11.11.01.04 Describe how to be recorded in Ohio's Nurse Aide Registry
- 11.11.01.05 Show employment verification required every 24 months
- 11.11.01.06 Use information about Ohio's Nurse Aide Registry (NAR)
- 11.11.01.07 Describe how mistreatment, abuse and neglect by NA are reported and recorded in Ohio
- 11.11.01.08 Explain the in-service requirement

Common Core

- 11.11.01.09 Explain how to receive information related to state testing
- 11.11.01.10 Discuss the differences between state tested and certified

- 11.11.02.00 **Demonstrate knowledge of work environment**
- 11.11.02.01 Describe the responsibilities of the LTCF governing body and staff
- 11.11.02.02 Identify other individuals the NA may encounter

- 11.11.03.00 **State role and responsibility of nurse aide**
- 11.11.03.01 Perform bedside nursing care
- 11.11.03.02 Maintain care of resident's unit
- 11.11.03.03 Provide nourishment
- 11.11.03.04 Provide record keeping and communication
- 11.11.03.05 Promote residents' rights
- 11.11.03.06 Maintain confidentiality
- 11.11.03.07 Set priorities

- 11.11.04.00 **Demonstrate knowledge of policy and procedure manuals**
- 11.11.04.01 Identify the purpose of the facility policy and procedures manual

- 11.11.05.00 **Demonstrate knowledge of professional attitudes and appearance**
- 11.11.05.01 Identify desirable attitudes and actions which will lead to successful job performance for the NA
- 11.11.05.02 Discuss desirable personal grooming habits for the NA

Common Core

- 11.11.06.00 Demonstrate knowledge of communication and interpersonal skills
- 11.11.06.01 Describe attitudes which promote communication between people
- 11.11.06.02 Identify behaviors which will help accomplish effective communication between the NA and residents
- 11.11.06.03 List factors which promote good communication among the NA and the resident, resident's family and friends
- 11.11.06.04 List factors which may block effective communication between the resident and their family and friends
- 11.11.06.05 List factors which promote effective communication between the NA and their immediate supervisor
- 11.11.06.06 List factors which block effective communication with the immediate supervisor
- 11.11.06.07 List steps for answering the resident's call signal
- 11.11.06.08 Identify techniques which promote effective communication using the telephone or intercom
- 11.11.07.00 Communicate and interact with the impaired resident
- 11.11.07.01 Describe appropriate communication techniques for vision, hearing, speech and/or physically impaired residents
- 11.11.07.02 Identify techniques to communicate with the confused, withdrawn, depressed, agitated, restless resident
- 11.11.07.03 List methods to communicate with the combative resident
- 11.11.08.00 Demonstrate knowledge of resident comprehensive assessment, care plan and care conference
- 11.11.08.01 State the purpose of a resident comprehensive assessment
- 11.11.08.02 State the purpose of a resident care plan

Common Core

- 11.11.08.03 State the purpose of the resident care conference
- 11.11.08.04 Identify the role of the NA in the care planning process
- 11.11.08.05 Describe the NA's role in gathering and documenting information on the worksheet

- 11.11.09.00 Demonstrate knowledge of legal responsibilities
- 11.11.09.01 Identify key legal aspects of resident care as they relate to the role of the NA
- 11.11.09.02 Identify the NA's role and responsibility regarding negligent behavior by the NA and the reporting of abuse, mistreatment, and/or neglect of a resident
- 11.11.09.03 Discuss the importance of keeping the resident's personal information confidential
- 11.11.09.04 Identify the purpose of the incident/accident reports
- 11.11.09.05 Discuss the NA responsibility for own actions

- 11.11.10.00 Demonstrate knowledge components of medical records
- 11.11.10.01 Identify the purpose of the medical record
- 11.11.10.02 Identify ways the NA can contribute to the medical record
- 11.11.10.03 Identify common medical abbreviations
- 11.11.10.04 Identify proper methods of documentation

- 11.11.11.00 Identify basic principles of infection control
- 11.11.11.01 Identify the basic principles of infection control
- 11.11.11.02 Identify reasons why infection prevention and control is important

Common Core

- 11.11.11.03 Identify factors which promote growth of microorganisms
- 11.11.11.04 Identify ways pathogenic microorganisms are spread
- 11.11.11.05 Identify practices which hinder the spread of infection

- 11.11.12.00 Prevent the growth and spread of pathogenic microorganisms
 - 11.11.12.01 Discuss reasons for correct hand washing
 - 11.11.12.02 Demonstrate effective hand washing techniques
 - 11.11.12.03 Identify methods used to control or eliminate microorganisms on supplies and equipment
 - 11.11.12.04 Describe the difference between clean, contaminated and sterile

- 11.11.13.00 Identify signs and symptoms of infection and use of universal precautions
 - 11.11.13.01 Identify signs and symptoms of infection
 - 11.11.13.02 State the purpose of universal precautions as defined in OAC
 - 11.11.13.03 Demonstrate universal precaution techniques as defined in Chapter 3734 ORC
 - 11.11.13.04 Demonstrate Respiratory Isolation techniques

- 11.11.14.00 Practice general safety practices and procedures
 - 11.11.14.01 Identify reasons to apply safety precautions in LTCFs.
 - 11.11.14.02 Identify safety precautions which help to prevent residents from falling
 - 11.11.14.03 Identify precautions the NA should take to prevent residents from being burned

Common Core

- 11.11.14.04 Identify safety precautions the NA should take to help prevent resident falls from beds, chairs and wheelchairs
- 11.11.14.05 Identify the safety precautions the NA should take to help prevent the resident from choking
- 11.11.14.06 Identify precautions the NA should take to help prevent ingestion of harmful substances by residents
- 11.11.14.07 Demonstrate the steps of the Heimlich Maneuver
- 11.11.14.08 Identify measures the NA should take should a resident ingest a harmful substance

- 11.11.15.00 Practice safety procedures when using oxygen and oxygen equipment
- 11.11.15.01 Identify safety precautions for oxygen use
- 11.11.15.02 Demonstrate a safety check of oxygen equipment

- 11.11.16.00 Demonstrate fire prevention practices and procedures to follow in case of fire disaster
- 11.11.16.01 Identify measures which should be taken to prevent fires in a LTCF
- 11.11.16.02 Describe causes of fires in LTCFs
- 11.11.16.03 Identify actions to take when a fire is discovered
- 11.11.16.04 Demonstrate fire carries
- 11.11.16.05 Identify examples of hazardous conditions that should be reported for correction
- 11.11.16.06 Name devices which are used or activated when a fire occurs in a LTCF

Common Core

- 11.11.17.00** **Demonstrate knowledge of natural disaster preparedness**
- 11.11.17.01 Discuss safety measures to be taken when there is a threat of a tornado or other natural disaster
-
- 11.11.18.00** **Practice principles of ergonomics, body mechanics and body alignment**
- 11.11.18.01 Define and discuss Ergonomics as it applies to the NA
- 11.11.18.02 Define Body Mechanics
- 11.11.18.03 Identify and demonstrate the rules of good body mechanics
- 11.11.18.04 Demonstrate general principles for lifting and moving residents
- 11.11.18.05 Describe correct body alignment
- 11.11.18.06 Explain why correct body alignment is important
- 11.11.18.07 Demonstrate correct positioning of a person in proper body alignment
- 11.11.18.08 Describe the posture most commonly found among the elderly
-
- 11.11.19.00** **Use and application of restraints**
- 11.11.19.01 Describe the purpose of restraints
- 11.11.19.02 Identify guidelines to follow in the application of restraints
- 11.11.19.03 Describe observations to make on the resident with restraints
- 11.11.19.04 Define various types of commonly used restraints for the LTCF
- 11.11.19.05 Demonstrate how to safely apply restraints

Common Core

- 11.11.20.00** **Demonstrate use of wheelchairs, geriatric chairs, lifts, ambulation devices and techniques**
- 11.11.20.01 Identify and discuss the safety precautions involved in the use of wheelchairs and geriatric chairs
- 11.11.20.02 Demonstrate safe use of wheelchairs and geriatric chairs
- 11.11.20.03 Describe the types and purposes of hydraulic lifts
- 11.11.20.04 Identify and demonstrate safety precautions involved in the operation of portable hydraulic lifts to move residents
- 11.11.20.05 Identify safe and proper uses of walkers, canes and crutches
- 11.11.20.06 Demonstrate the safe way to assist a resident to walk
-
- 11.11.21.00** **Promote the residents' independence**
- 11.11.21.01 Identify losses, both physical and psychosocial, which may decrease independence
- 11.11.21.02 Identify some of the aspects of independent living a person may lose when they reside in a LTCF
- 11.11.21.03 Demonstrate positive ways a NA can promote the resident's independence
- 11.11.21.04 Name or list types of choices available to the resident to gain the highest level of independence
-
- 11.11.22.00** **Respect residents' rights**
- 11.11.22.01 Identify legal rights of the resident contained in the Ohio Resident Bill of Rights (ORBR)

Common Core

- 11.11.23.00 Practice observational skills**
- 11.11.23.01 Discuss the importance of observation
- 11.11.23.02 Describe various observation techniques
- 11.11.23.03 Identify observations to be made during resident care
- 11.11.23.04 Describe how to report and record observations
- 11.11.24.00 Recognize changes in body functioning**
- 11.11.24.01 Describe how the NA might recognize that a resident has impaired vision
- 11.11.24.02 Describe changes in vision which may accompany aging
- 11.11.24.03 Name diseases which may cause visual impairment
- 11.11.24.04 Demonstrate ways to change the environment to encourage the visually impaired resident's independence and to promote safety
- 11.11.24.05 Identify warning signs of hearing impairment
- 11.11.24.06 Describe changes in hearing which may accompany aging
- 11.11.24.07 Demonstrate ways to modify communication to a person with a hearing loss
- 11.11.24.08 Discuss the use and care of hearing aids
- 11.11.24.09 List actions to help prevent injury to the resident with impaired touch
- 11.11.24.10 Describe changes in behavior which may follow loss of the senses of taste and smell
- 11.11.24.11 List ways to aid the resident who has losses of taste and smell
- 11.11.24.12 Describe how the changes of aging may affect gastrointestinal function

Common Core

- 11.11.24.13 Describe the special care the NA might give a resident with a digestive disorder
- 11.11.24.14 Identify descriptions of reproductive system disorders
- 11.11.24.15 Describe changes of aging which affect the musculoskeletal system
- 11.11.24.16 Identify measures the NA can do to assist the resident with musculoskeletal diseases or problems
- 11.11.25.00 **Recognize signs and symptoms of common diseases**
- 11.11.25.01 Describe the changes of aging which may affect the heart and blood vessels
- 11.11.25.02 Identify changes the resident may experience as a result of decreased cardiovascular function and the appropriate NA actions
- 11.11.25.03 Identify changes the resident may experience as a result of decreased respiratory function
- 11.11.25.04 Identify measures to aid the resident with shortness of breath
- 11.11.25.05 Identify the common signs and symptoms of diabetes
- 11.11.25.06 Identify the three key components of the diabetic resident's treatment plan
- 11.11.25.07 List possible complications of Diabetes and related NA actions
- 11.11.25.08 Describe changes of aging which may affect urinary function
- 11.11.25.09 Identify how the NA can help promote good kidney function
- 11.11.25.10 Identify the primary nervous system changes due to aging
- 11.11.25.11 Identify common nervous system disorders found among the elderly
- 11.11.25.12 Identify actions which maintain the safety and dignity of the resident who has nervous system disorders

Common Core

- 11.11.26.00** **Create a homelike environment in a Long Term Care Facility**
- 11.11.26.01 Identify major items in the resident's unit
- 11.11.26.02 Identify measures to keep the resident's environment comfortable
- 11.11.26.03 Demonstrate tasks necessary to assure that the resident's unit is properly maintained

- 11.11.27.00** **Use bedmaking techniques and comfort measures for the bed bound resident**
- 11.11.27.01 State reasons why bedmaking techniques are important for the bed bound resident
- 11.11.27.02 Demonstrate types of bedmaking and identify when each is appropriate
- 11.11.27.03 Demonstrate measures which promote comfort for the resident

- 11.11.28.00** **Admit and discharge a resident**
- 11.11.28.01 Identify feelings the resident and family may have at the time of admission
- 11.11.28.02 Identify actions the NA may take to assist the resident during admission
- 11.11.28.03 Identify feelings the resident may have when discharged

- 11.11.29.00** **Provide a positive mealtime experience**
- 11.11.29.01 Discuss how to promote a positive atmosphere at mealtime
- 11.11.29.02 Identify devices and techniques which may be used to help the resident maintain independence while eating
- 11.11.29.03 Describe and demonstrate how to feed a resident
- 11.11.29.04 State how to identify a choking victim

Common Core

- 11.11.30.00** **Provide adequate nutrition and fluid needs**
- 11.11.30.01 Discuss factors which affect the nutritional state of the resident
- 11.11.30.02 Name examples of a modified diet
- 11.11.30.03 Identify the NA's responsibility for residents who require a therapeutic diet
- 11.11.30.04 Describe the role of the dietary department in providing nutrition for the resident
- 11.11.30.05 Identify the importance of adequate hydration
- 11.11.30.06 Describe a method to encourage fluid intake
- 11.11.31.00** **Measure height and weight**
- 11.11.31.01 Discuss why a resident's weight is regularly measured and recorded
- 11.11.31.02 Describe and demonstrate how to weight a resident accurately
- 11.11.31.03 Describe and demonstrate how to measure and record a resident's height accurately
- 11.11.32.00** **Observe and measure vital signs**
- 11.11.32.01 Identify abbreviations of the vital signs
- 11.11.32.02 Identify the cause of body temperature
- 11.11.32.03 Identify the "normal" or average body temperature
- 11.11.32.04 List situations which may cause the thermometer reading to vary from "normal or average"
- 11.11.32.05 Identify types of thermometers and situations in which they are used
- 11.11.32.06 Demonstrate how to care for glass thermometers

Common Core

- 11.11.32.07 Describe each method of check temperatures
- 11.11.32.08 Identify how the NA should record and report temperature measurements
- 11.11.32.09 State the "normal" or average pulse rate
- 11.11.32.10 Identify variations from the "normal" pulse which should be reported
- 11.11.32.11 Demonstrate the accurate taking of a radial and apical pulse
- 11.11.32.12 Discuss how to record and report pulse measurement
- 11.11.32.13 State the average respiratory rate
- 11.11.32.14 Describe how to measure respiratory rate
- 11.11.32.15 Discuss how to record and report the respiratory rate measurement
- 11.11.32.16 Identify what causes blood pressure
- 11.11.32.17 State the "normal" or average blood pressure
- 11.11.32.18 Describe variations in blood pressure
- 11.11.32.19 Identify instruments to check blood pressure
- 11.11.32.20 Describe how to check blood pressure
- 11.11.32.21 Identify how to record and report blood pressure measurements
- 11.11.33.00 Provide oral hygiene
- 11.11.33.01 Name goals for oral hygiene
- 11.11.33.02 Identify general practices for oral hygiene
- 11.11.33.03 State and demonstrate the correct method for brushing a resident's teeth

Common Core

- 11.11.33.04 Identify and demonstrate how to safely care for the resident's dentures
- 11.11.33.05 Describe safe mouth care for the unconscious resident or the resident who cannot take food orally

- 11.11.34.00 Give a bath
- 11.11.34.01 Discuss factors which affect a resident's hygiene needs and practices
- 11.11.34.02 Identify the purposes of bathing
- 11.11.34.03 Identify general guidelines to follow when bathing the resident including measures for privacy and safety
- 11.11.34.04 Demonstrate a bedbath and identify actions which promote comfort for the resident while being bathed
- 11.11.34.05 Identify situations in which perineal care should be given
- 11.11.34.06 Discuss how whirlpool baths are given
- 11.11.34.07 Demonstrate how shower and tub baths are given

- 11.11.35.00 Perform additional personal care skills
- 11.11.35.01 State why, when, and how a backrub is given
- 11.11.35.02 Discuss and demonstrate how to dress and undress the resident
- 11.11.35.03 Name 3 assistive devices that may be used in dressing/undressing a resident
- 11.11.35.04 Discuss the care of the resident's hair
- 11.11.35.05 State why it is important to comb resident's hair every day
- 11.11.35.06 Discuss the care of a residents fingernails and toenails
- 11.11.35.07 Discuss shaving the resident's facial hair

Common Core

- 11.11.36.00** **Provide special skin care**
- 11.11.36.01 Describe the signs and symptoms of a decubitus ulcer
- 11.11.36.02 Identify locations which are prone to ulcer formation
- 11.11.36.03 Describe the conditions which predispose the elderly to decubitus ulcer formation
- 11.11.36.04 Discuss and identify ways to prevent decubitus ulcers
- 11.11.36.05 Describe measures to provide skin care and comfort for the incontinent resident
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- 11.11.37.00** **Care for urinary elimination needs and urinary catheters**
- 11.11.37.01 Locate on a chart, name, and briefly state the function of the kidneys, ureters, urethra and bladder
- 11.11.37.02 Identify ways in which urinary function may be altered in the aged person
- 11.11.37.03 Correctly use the terms for urinating, urine, and void
- 11.11.37.04 Describe normal and abnormal appearance of urine and abnormal sensation while urinating
- 11.11.37.05 List signs and symptoms of urinary tract infections and actions the NA may take to decrease the incidence of these infections
- 11.11.37.06 Recognize the way in which a urinary catheter works
- 11.11.37.07 Identify steps which maintain the catheter as a closed drainage system and help prevent urinary tract infection
- 11.11.37.08 Identify measures which will help keep a urinary catheter draining correctly, observations which indicate it is not draining
- 11.11.37.09 Identify measures to avoid injury to the bladder opening from pressure on the catheter

Common Core

- 11.11.37.10 Identify observations one should make about the catheterized resident
- 11.11.37.11 Identify the correct use of a leg bag to collect catheterized urine
- 11.11.37.12 Describe an external catheter and identify measures for using it correctly
- 11.11.37.13 Identify causes of incontinence
- 11.11.37.14 Describe measures to provide skin care and comfort for the incontinent resident
- 11.11.37.15 Describe measures to prevent incontinence

- 11.11.38.00 **Perform toileting procedures**
- 11.11.38.01 Identify and demonstrate correct procedure for assisting a resident with a bedpan or fracture pan
- 11.11.38.02 Identify the correct procedure for assisting the resident with using a urinal
- 11.11.38.03 Identify the correct procedure for assisting the resident with using the bedside commode or toilet

- 11.11.39.00 **Measure intake and output**
- 11.11.39.01 Identify what is meant by fluid balance, fluid imbalance, and effect of aging on fluid balance
- 11.11.39.02 Identify the reasons for measuring intake and output. State the abbreviations
- 11.11.39.03 Identify and demonstrate the procedure for measuring and recording fluid intake
- 11.11.39.04 Identify what is meant by the terms: force fluids, restrict fluids and NPO
- 11.11.39.05 Discuss and demonstrate the procedure for measuring output

Common Core

- 11.11.40.00** **Demonstrate knowledge of functions of the bowel**
- 11.11.40.01 Discuss the normal structure and function of the lower intestinal tract
- 11.11.40.02 Identify the terms used for bowel elimination
- 11.11.40.03 Describe the normal and abnormal appearance of feces
- 11.11.40.04 Identify affects of aging on function of the lower intestinal tract
- 11.11.40.05 Identify signs which may indicate that a resident is constipated
- 11.11.40.06 Identify measures which may be part of a resident's care in order to prevent or relieve constipation
- 11.11.40.07 Identify what is meant by fecal impaction
- 11.11.40.08 Identify symptoms which might indicate that a resident has a fecal impaction
- 11.11.40.09 Identify causes of fecal impaction in the elderly
- 11.11.40.10 Identify the role of the NA in preventing fecal impaction
- 11.11.40.11 Identify causes of incontinence and measures for caring for the resident who is incontinent of feces
- 11.11.41.00** **Discuss developmental tasks, stereotype myths, and basic facts and statistics about the elderly**
- 11.11.41.01 List the developmental tasks associated with the aging process
- 11.11.41.02 List basic facts and statistics about the elderly
- 11.11.41.03 List some of the stereotypes about aging which are prevalent in our society

Common Core

- 11.11.42.00 Recognize basic emotional needs of residents**
- 11.11.42.01 Identify basic emotional needs of residents in a LTCF
- 11.11.42.02 Describe ways that the NA can use to meet the emotional needs of the resident
- 11.11.42.03 List ways that the NA can change their own response to the resident's behavior
- 11.11.43.00 Recognize factors which promote rest and relaxation**
- 11.11.43.01 Discuss factors which influence the residents' sleep
- 11.11.43.02 Identify actions the NA may take to help the resident sleep
- 11.11.44.00 Recognize sexuality in aging**
- 11.11.44.01 Identify some of the physical changes which may affect sexuality in the aging person
- 11.11.44.02 Identify some of the social aspects of sexual function in the elderly
- 11.11.44.03 Discuss appropriate NA response to perceived sexual advances from a resident
- 11.11.45.00 Demonstrate knowledge of special needs populations**
- 11.11.45.01 Define mental health
- 11.11.45.02 Identify the general characteristics of persons who are mentally ill
- 11.11.45.03 Define mental retardation
- 11.11.45.04 Identify components of program services for residents who may be mentally retarded

Common Core

- 11.11.45.05 List methods to identify and utilize the resident's strengths as a way to reinforce appropriate behavior or reduce or eliminate inappropriate behavior
- 11.11.45.06 Identify behaviors the NA should use while caring for residents who are mentally retarded or mentally ill
- 11.11.46.00 **Care for the confused or withdrawn resident**
- 11.11.46.01 Identify some of the possible causes of confusion
- 11.11.46.02 Identify symptoms which indicate a resident may be confused
- 11.11.46.03 Identify psychosocial implications of confusion for the resident (how the person feels and interacts with others)
- 11.11.46.04 Identify ways in which some of the causes of confusion may be minimized
- 11.11.46.05 Identify behaviors which may be seen in the person who is withdrawn
- 11.11.46.06 Identify some causes of withdrawn behavior
- 11.11.46.07 Identify acceptable therapeutic interventions for the confused and/or withdrawn resident
- 11.11.46.08 Identify appropriate NA responses to combative behavior
- 11.11.47.00 **Care for the dying resident**
- 11.11.47.01 Identify some of American society's attitudes about death
- 11.11.47.02 Identify the 5 stages of reaction to approaching death. For each, identify behaviors the dying person might demonstrate
- 11.11.47.03 Identify the emotional needs of the resident experiencing death
- 11.11.47.04 Describe responses by the nurse aide to emotional needs of the dying resident

Common Core

- 11.11.47.05 Identify emotions which may be experienced in response to the death of others
- 11.11.47.06 State the importance of and ways to acknowledge the death of a resident in a LTCF
- 11.11.47.07 Identify physical sign of approaching death
- 11.11.47.08 Identify care measures which the NA should provide for the dying resident
- 11.11.47.09 Discuss the recognition and consideration of the family
- 11.11.47.10 Identify the meaning for the term "post-mortem care" and the steps involved in providing post-mortem care
- 11.11.47.11 Identify the impact spiritual beliefs have on the emotional needs of residents
- 11.11.48.00 Prevent complications of immobility
- 11.11.48.01 List the negative effects of immobility on the body
- 11.11.48.02 Describe the activities to be encouraged in order that residents in LTCFs may participate in their own self-care whenever possible
- 11.11.48.03 Identify the purpose, safety precautions and who may assist a resident during range of motion exercises
- 11.11.48.04 Describe the differences between active and passive range of motion
- 11.11.48.05 Identify the procedures used to assist with active and passive ROM exercises for all joints
- 11.11.48.06 Identify measures which help prevent complications of immobility
- 11.11.48.07 Identify and demonstrate body mechanics used in the LTCF
- 11.11.48.08 Identify and demonstrate transfer techniques for dependent residents

Common Core

- 11.11.48.09 Identify and demonstrate appropriate body alignments for residents in the sitting and lying position
- 11.11.49.00 Recognize components of bowel and bladder program**
- 11.11.49.01 Identify the goals of a bowel and bladder program
- 11.11.49.02 Identify factors which go into preparing a bowel/bladder training program
- 11.11.49.03 Identify the steps involved in bowel training
- 11.11.49.04 Identify steps involved in bladder training
- 11.11.50.00 Demonstrate knowledge of prosthetic devices**
- 11.11.50.01 Describe the purpose and types of prosthetic devices
- 11.11.50.02 Apply prosthetic devices with direction of charge nurse
- 11.11.50.03 Store prosthetic devices appropriately when they are not in use
- 11.11.51.00 Recognize the right to participation in activities, to voice complaints, and make personal choices**
- 11.11.51.01 Identify ways to help the resident be active in family, groups, self-care, and facility sponsored activities
- 11.11.51.02 Describe methods of assisting the resident to vote
- 11.11.51.03 Define the term "personal choices" and state examples of the resident's personal choices
- 11.11.51.04 Discuss ways to enforce facility rules/regulations which govern resident conduct
- 11.11.51.05 Demonstrate techniques to help the resident resolve grievances or complaints

Common Core

- 11.11.51.06 Describe the basic role of the Ohio Ombudsman Program and its relationship to the LTCF
- 11.11.52.00 Recognize the right to privacy
- 11.11.52.01 Describe methods of providing the resident with privacy
- 11.11.53.00 Recognize the right to confidentiality
- 11.11.53.01 Discuss what is meant by and define confidentiality
- 11.11.53.02 State examples of ways to maintain confidentiality
- 11.11.54.00 Identify right to freedom from abuse or unnecessary physical and chemical restraints
- 11.11.54.01 Define abuse, mistreatment and neglect and give examples
- 11.11.54.02 State examples of ways the NA can prevent abuse, mistreatment and neglect
- 11.11.54.03 Identify need/how to report any instances of abuse, mistreatment or neglect
- 11.11.54.04 Define chemical and physical restraint
- 11.11.54.05 Discuss examples of unnecessary physical or chemical restraints
- 11.11.54.06 Discuss ways to eliminate the need for chemical or physical restraint of the resident
- 11.11.55.00 Recognize the right of proper care and security of personal possessions
- 11.11.55.01 Describe ways to ensure the security of the resident's possessions

Recommended Assessment: The State of Ohio establishes the requirements for Ohio's Nurse Aide Training and Competency Evaluation program. Students completing these requirements are qualified to take the exam provided by the Ohio Department of Health. Passing the exam allows the student to work as a "State Tested" Nursing Assistant.

ELECTIVES

Students will concentrate in three of the elective areas listed below. In addition, a required quarter of independent study with a career focus, a mentorship/internship at a worksite or post secondary enrollment is required.

Diagnostic Procedures

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|-------------|---|
| 11.12.01.00 | Perform basic EKG |
| 11.12.01.01 | Demonstrate knowledge of the various aspects and facets of Health Care:
*See Unit: Medical Terminology
*See Unit: Medical Law & Ethics
*See Unit: Career Exploration
*See Unit: Infection Control and Hazards Management
*See Unit: Safety and Infection Control
*See Unit: Employability Skills
*See Unit: The Medical Database |
| 11.12.02.00 | Demonstrate knowledge of the circulatory/cardiovascular system

* See Unit: Anatomy/Physiology - Circulatory System |
| 11.12.03.00 | Perform circulation checks |
| 11.12.03.01 | Identify pulse sites |
| 11.12.03.02 | Take vital signs |
| 11.12.03.03 | Observe and report s/s of impaired circulation |
| 11.12.03.04 | Use doppler |
| 11.12.04.00 | Perform the EKG recording |
| 11.12.04.01 | Identify procedure changes with infants, amputees, dressings, etc. |
| 11.12.04.02 | Demonstrate knowledge of equipment maintenance |
| 11.12.04.03 | Identify cardiovascular pharmacology-drugs affecting EKG recording |

Electives

- | | |
|-------------|---|
| 11.12.04.04 | Perform a 12 lead EKG recording |
| 11.12.04.05 | Mount a 12 lead EKG |
| 11.12.04.06 | Clean EKG equipment |
| 11.12.04.07 | Recognize basic EKG rhythms and artifacts |
| 11.12.04.08 | Demonstrate holter monitor application |
| 11.12.05.00 | Demonstrate knowledge of cardiac pathology |
| | * See Unit: Anatomy/Physiology - Circulatory System |
| 11.12.06.00 | Demonstrate knowledge of dysrhythmia basics |
| 11.12.06.01 | Identify calculations of heart rate P-R intervals, QRS duration |
| 11.12.06.02 | Identify basics of dysrhythmia-sinus rhythm, bradycardia, tachycardia, PVC's, A-V block, etc. |
| 11.12.07.00 | Demonstrate knowledge of additional cardiac procedures |
| 11.12.07.01 | Explain Stress Testing |
| 11.12.07.02 | Explain Ambulatory EKG |
| 11.12.07.03 | Explain Echocardiography |
| 11.12.07.04 | Explain angiography |
| 11.12.07.05 | Explain Nuclear Medicine |
| 11.12.07.06 | Explain PTCA (percutaneous transluminal coronary angioplasty) |
| 11.12.08.00 | Perform CPR |
| | * See competency 11.10.01 |

Electives

- 11.12.09.00** Assist with radiological procedures
- 11.12.09.01 Prepare and instruct patients on procedures
- 11.12.09.02 Develop X-rays
- 11.12.09.03 Identify and follow Occupational Safety and Health Administration (OSHA) regulations

- 11.12.10.00** Assist with pulmonary function testing
- 11.12.10.01 Perform spirometry tests
- 11.12.10.02 Set up and administer oxygen
- 11.12.10.03 Administer aerosol therapy
- 11.12.10.04 Explain pulse oximetry

- 11.12.11.00** Assist with allergy testing
- 11.12.11.01 Prepare tray
- 11.12.11.02 Perform scratch test
- 11.12.11.03 Perform patch test

- 11.12.12.00** Measure and record visual acuity using the Snellen chart

- 11.12.13.00** Measure and record visual acuity using the Jaegar chart

- 11.12.14.00** Measure and record color vision using the Ishahara chart

- 11.12.15.00** Measure hearing with the audiometer

Electives

Laboratory Procedures

- | | |
|--------------------|---|
| 11.13.01.00 | Demonstrate knowledge of infection control and laboratory safety |
| 11.13.01.01 | Identify lab safety policies and procedures |
| 11.13.01.02 | Discuss modes of disease transmission |
| 11.13.01.03 | Explain biohazards |
| 11.13.01.04 | Identify phlebotomy safety procedures |
| 11.13.01.05 | Demonstrate universal precautions |
| 11.13.01.06 | Identify OSHA standards and regulations |
| 11.13.01.07 | Identify CLIA standards and procedures |
| 11.13.01.08 | Demonstrate knowledge of infection control |
| 11.13.01.09 | Demonstrate isolation methods |
| 11.13.01.10 | Discuss first aid procedure for fainting |
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| 11.13.02.00 | Perform drug screen testing |
| 11.13.02.01 | Demonstrate safe use of equipment |
| 11.13.02.02 | Read and record results properly |
| 11.13.02.03 | Discuss chain of command |
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| 11.13.03.00 | Perform tuberculosis testing |
| 11.13.03.01 | Administer and interpret Tine test |
| 11.13.03.02 | Administer and interpret Mantoux test |

Electives

- 11.13.04.00 Assist with specimen collection and handling
- 11.13.04.01 Maintain laboratory supplies
- 11.13.04.02 Obtain specimens for cultures (e.g. body fluids)
- 11.13.04.03 Identify specimens
- 11.13.04.04 Evaluate suitability of specimen
- 11.13.04.05 Culture, grow and transfer specimen
- 11.13.04.06 Transport bacteria to outside lab
- 11.13.04.07 Collect and handle sputum
- 11.13.04.08 Collect and handle urine (e.g. clean catch and sterile specimens, 24 hour urine, three jar test)
- 11.13.04.09 Collect and handle stool specimen (e.g. for occult blood, ovum and parasites)
- 11.13.04.10 Use sterile technique when performing a culture

- 11.13.05.00 Demonstrate proper technique to perform venipuncture and capillary puncture
- 11.13.05.01 Identify collection equipment and supplies
- 11.13.05.02 Identify interfering substances
- 11.13.05.03 Identify additives
- 11.13.05.04 Identify special precautions
- 11.13.05.05 Identify puncture sites
- 11.13.05.06 Identify sterile and antiseptic site
- 11.13.05.07 Perform preparation of site

Electives

- | | |
|-------------|---|
| 11.13.05.08 | Perform capillary puncture with lancet |
| 11.13.05.09 | Perform capillary puncture with autolet |
| 11.13.05.10 | Identify effect of tourniquet, heat, hand squeezing on collection |
| 11.13.05.11 | Perform needle insertion and withdrawal |
| 11.13.05.12 | Identify order of draw using a vacutainer and a syringe |
| 11.13.05.13 | Perform venipuncture on manikin arm using syringe |
| 11.13.05.14 | Perform venipuncture on manikin arm using vacutainer |
| 11.13.05.15 | Demonstrate patient identification procedures |
| 11.13.05.16 | Label specimen properly when collected |
| 11.13.05.17 | Demonstrate requisitioning |
| 11.13.05.18 | Process specimen |
| 11.13.05.19 | Transport specimen |
| 11.13.05.20 | Identify legal implications |
| 11.13.05.21 | Identify time constraints |
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| 11.13.06.00 | Perform microbiological identifications |
| 11.13.06.01 | Use the microscope |
| 11.13.06.02 | Obtain a throat culture |
| 11.13.06.03 | Identify bacteria using differential agar |
| 11.13.06.04 | Identify bacteria using gram stains |

Electives

- 11.13.07.00** **Perform routine urinalysis and urine diagnostics**
- 11.13.07.01 Perform complete urinalysis (microscopic and chemical)
- 11.13.07.02 Perform tests for pregnancy
- 11.13.07.03 Perform chemical urinalysis

- 11.13.08.00** **Perform manual and automated test of complete blood count (CBC)**
- 11.13.08.01 Perform hematocrit (Hct)
- 11.13.08.02 Perform hemoglobin determination (hgB)
- 11.13.08.03 Perform red blood cell count (RBC)
- 11.13.08.04 Perform white blood cell count (WBC)
- 11.13.08.05 Perform white blood cell differential (Diff)
- 11.13.08.06 Perform erythrocyte sedimentation rate (ESR)

- 11.13.09.00** **Perform serological tests**
- 11.13.09.01 Prepare serum
- 11.13.09.02 Perform serum blood chemistries
- 11.13.09.03 Perform ABO and Rh typing according to CLIA regulations
- 11.13.09.04 Perform monospot test
- 11.13.09.05 Perform serum pregnancy test (HCG)

Laboratory Technology

- 11.14.01.00** **Perform urinalysis procedures**
- 11.14.01.01 Describe proper urine collection and preservation methods

Electives

- 11.14.01.02 Perform a physical examination of urine
- 11.14.01.03 Perform a chemical examination of urine
- 11.14.01.04 Identify urine sediment
- 11.14.01.05 Perform a microscopic analysis of urine sediment
- 11.14.01.06 Perform tablet tests on urine samples to determine presence of glucose acetone
- 11.14.01.07 Perform urine pregnancy tests
- 11.14.01.08 Perform drug screens on urine samples using the On-Trak test kit

- 11.14.02.00 Perform hematology procedures
- 11.14.02.01 Perform a manual hemoglobin
- 11.14.02.02 Perform a micro-hematocrit
- 11.14.02.03 Perform and calculate blood cell counts using a hemacytometer
- 11.14.02.04 Perform red and white blood cell counts using the unopette system
- 11.14.02.05 Make and stain a blood smear
- 11.14.02.06 Perform a white blood cell differential count using normal healthy cells
- 11.14.02.07 Perform an erythrocyte sedimentation rate (ESR)
- 11.14.02.08 Operate an instrument capable of analyzing blood cell counts, such as a QBC II system

- 11.14.03.00 Perform biochemistry procedures
- 11.14.03.01 Operate desktop chemistry instruments as are used in a physician's office laboratory

Electives

- 11.14.03.02 Perform chemistry tests most frequently performed in small laboratories
- 11.14.03.03 Perform clinical chemistry calculations
- 11.14.03.04 Operate a chemistry instrument integrated with a laboratory information system
- 11.14.03.05 Calibrate chemistry instruments
- 11.14.03.06 Perform quality control procedures
- 11.14.03.07 Plot control results on a graph and interpret graphed results
- 11.14.03.08 Perform simple laboratory mathematical calculations
- 11.14.03.09 Perform measurements using the metric system

- 11.14.04.00 Perform immunology procedures
- 11.14.04.01 Perform ABO blood types
- 11.14.04.02 Perform RH blood types
- 11.14.04.03 Perform slide tests for infectious mononucleosis
- 11.14.04.04 Perform rapid plasma reagin (RPR) test for syphilis
- 11.14.04.05 Perform slide tests for rheumatoid arthritis

- 11.14.05.00 Perform microbiology procedures
- 11.14.05.01 Operate a binocular microscope
- 11.14.05.02 Identify stained bacteria
- 11.14.05.03 Make a bacteriological smear
- 11.14.05.04 Perform and interpret gram stains

Electives

- 11.14.05.05 Transfer bacteria from one culture medium to another
- 11.14.05.06 Inoculate and incubate culture media
- 11.14.05.07 Collect throat and urine specimens for bacterial culture
- 11.14.05.08 Perform a rapid test for Group A Streptococcus
- 11.14.05.09 Identify bacteria using differential culture media, biochemistry tests and gram stains

- 11.14.06.00 Perform quality control procedures
- 11.14.06.01 Explain the importance of quality control in the laboratory
- 11.14.06.02 Establish a quality assurance program for the operation of laboratory equipment

- 11.14.06.03 Perform calibration of laboratory instruments
- 11.14.06.04 Perform quality control testing for all laboratory procedures performed
- 11.14.06.05 Maintain records of control results
- 11.14.06.06 Use graph techniques to display quality control results
- 11.14.06.07 Store quality results on disk or on tape

- 11.14.07.00 Perform specimen processing procedures
- 11.14.07.01 Complete a daily log of specimens received
- 11.14.07.02 Process blood and body fluids
- 11.14.07.03 Centrifuge blood samples and separate serum/plasma
- 11.14.07.04 Label all transfer tubes properly and completely
- 11.14.07.05 Prepare specimens for shipment to a reference laboratory
- 11.14.07.06 Instruct patients on how to properly collect laboratory specimens

Electives

- 11.14.08.00** **Perform cardiopulmonary resuscitation (CPR)**
- 11.14.08.01 Obtain and maintain CPR certification
- 11.14.08.02 Administer mouth-to-mouth rescue breathing
- 11.14.08.03 Administer CPR to infants and children
- 11.14.08.04 Administer CPR to adults
- 11.14.08.05 Administer care for obstructed airways for infants, children, and adults

- 11.14.09.00** **Perform first aid procedures**
- 11.14.09.01 Recognize signs and symptoms in a patient who is about to faint
- 11.14.09.02 Perform first aid measures for the fainting or nauseous patient
- 11.14.09.03 React to a patient who has a petit mal or grand mal seizure
- 11.14.09.04 Administer first aid to control bleeding

- 11.14.10.00** **Perform electrocardiograms and measure vital signs**
- 11.14.10.01 Perform and mount a 12 lead electrocardiogram
- 11.14.10.02 Measure and record oral temperature
- 11.14.10.03 Measure and record radial and jugular pulse rates
- 11.14.10.04 Count and record respiration
- 11.14.10.05 Measure and record blood pressure using proper cuff size

- 11.14.11.00** **Maintain personal safety and hygiene**
- 11.14.11.01 Demonstrate proper handwashing technique
- 11.14.11.02 Maintain clean uniforms

Electives

- 11.14.11.03 Practice proper care and grooming of hair and nails for health care professionals
- 11.14.11.04 Practice safe pipetting techniques
- 11.14.11.05 Dispose of contaminated equipment
- 11.14.11.06 Clean spills and dispose of broken glass
- 11.14.11.07 Operate an autoclave
- 11.14.11.08 Maintain a clean workplace
- 11.14.11.09 Perform sterilization procedures in the laboratory

- 11.14.12.00 Comply with OSHA's Bloodborne Pathogen Rule of June 1992
- 11.14.12.01 Comply with all safety measures discussed in the Bloodborne Pathogen Rule
- 11.14.12.02 Discuss safety program established for the laboratory
- 11.14.12.03 Obtain Hepatitis B vaccinations
- 11.14.12.04 Wear uniform and personal protective clothing in the laboratory

- 11.14.13.00 Demonstrate isolation procedures
- 11.14.13.01 Identify the different types of isolation
- 11.14.13.02 Demonstrate procedures for disposal of soiled or contaminated materials
- 11.14.13.03 Demonstrate general principles of asepsis
- 11.14.13.04 Discuss nosocomial infections and their implications to all patients
- 11.14.13.05 List and perform protocol for obtaining a sterile site

Electives

- 11.14.14.00** **Perform biochemistry procedure**
- 11.14.14.01 Operate desktop chemistry instruments as are used in a physician's office laboratory (J&J DT 60, Vision, Reflotron, Cholestech, Serolyzer)
- 11.14.14.02 Perform chemistry tests most frequently performed in small laboratories (lipids, glucose, K+)
- 11.14.14.03 Perform clinical chemistry calculations (VLDL, LDL, Cholesterol/HDL ratio)
- 11.14.14.04 Operate a chemistry instrument integrated with a laboratory information system
- 11.14.14.05 Calibrate chemistry instruments
- 11.14.14.06 Perform quality control procedures
- 11.14.14.07 Plot control results on a graph and interpret graphed results
- 11.14.14.08 Perform measurements using the metric system

- 11.14.15.00** **Perform immunology procedures**
- 11.14.15.01 Perform ABO blood types
- 11.14.15.02 Perform RH blood types
- 11.14.15.03 Perform slide tests for infectious mononucleosis
- 11.14.15.04 Perform rapid plasma reagin (RPR) test for syphilis
- 11.14.15.05 Perform slide tests for rheumatoid arthritis

- 11.14.16.00** **Perform microbiology procedures**
- 11.14.16.01 Operate a binocular microscope
- 11.14.16.02 Perform and interpret gram stains

Electives

- 11.14.16.03 Transfer bacteria from one culture medium to another
- 11.14.16.04 Inoculate and incubate culture media
- 11.14.16.05 Collect throat and urine specimens for bacterial culture
- 11.14.16.06 Perform a rapid test for Group A Streptococcus
- 11.14.16.07 Identify bacteria using differential culture media, biochemistry tests and gram stains

- 11.14.17.00 **Perform quality control procedures**
- 11.14.17.01 Explain the importance of quality control in the laboratory
- 11.14.17.02 Establish a quality assurance program for the operation of laboratory equipment
- 11.14.17.03 Perform calibration of laboratory instruments
- 11.14.17.04 Perform quality control testing for all laboratory procedures performed
- 11.14.17.05 Maintain records of control results
- 11.14.17.06 Use graph techniques to display quality control results
- 11.14.17.07 Store quality control results on disk or on tape

- 11.14.18.00 **Perform specimen processing procedures**
- 11.14.18.01 Complete a daily log of specimens received
- 11.14.18.02 Process blood and body fluids
- 11.14.18.03 Centrifuge blood samples and separate serum/plasma
- 11.14.18.04 Label all transfer tubes properly and completely
- 11.14.18.05 Prepare specimens for shipment to a reference laboratory

Electives

- 11.14.18.06 Instruct patients on how to properly collect laboratory specimens
- 11.14.19.00 **Comply with CDC, NCCLS, CAP, ASCP and OSHA**
- 11.14.19.01 Practice universal precautions when handling potentially hazardous specimens
- 11.14.19.02 Utilize safety shields, eye protection, and gloves when exposing body fluids
- 11.14.19.03 Wear personal protective clothing in the laboratory
- 11.14.19.04 Dispose of sharps correctly
- 11.14.19.05 Demonstrate proper handwashing techniques
- 11.14.19.06 Identify and label biohazardous specimens

Phlebotomy Technology

(Mult 114, Mult 115)

- 11.15.01.00 **Identify collection equipment, reagents and recite interfering factors that can be implicated in blood collections**
- 11.15.01.01 List and describe equipment needed to collect blood specimens
- 11.15.01.02 Explain precautions and equipment needed to collect blood from a newborn infant
- 11.15.01.03 Identify anticoagulants, preservatives, and gels the vacuum tube color-codes
- 11.15.01.04 Evaluate anticoagulants, preservatives, and gels used in blood collection
- 11.15.01.05 Describe laboratory specimens and the phlebotomist's role in collecting, transporting these specimens to the laboratory
- 11.15.01.06 Describe substances that can interfere in the analysis of blood analytes

Electives

- 11.15.02.00 Requisition, process and transport specimens**
- 11.15.02.01 List information required on laboratory requisition or computer order entry
- 11.15.02.02 Operate data processing and computer systems utilized in the laboratory
- 11.15.02.03 Describe the importance of adhering to time constraints and temperature needs
- 11.15.02.04 Discuss precautions for verbal test orders and verbal reporting
- 11.15.02.05 Describe routine and special procedures for transporting and processing specimens
- 11.15.02.06 Describe the use of transport and/or communication systems for specimens and data
- 11.15.02.07 Discuss routine "log-in" sheets and as manual back-up for computer systems
- 11.15.02.08 Describe specimen accession, identification and retention systems
- 11.15.02.09 Inspect and evaluate specimen suitability for the analysis requested
- 11.15.02.10 Centrifuge and aliquot specimen for distribution to the appropriate laboratory section
- 11.15.02.11 Prepare smears, droplets or mounts of the specimen for analysis
- 11.15.02.12 Evaluate results of-quality control techniques in specimen collection
- 11.15.03.00 Perform micropuncture**
- 11.15.03.01 Identify equipment used in micropuncture collections
- 11.15.03.02 Identify equipment used for infant and neonatal collection
- 11.15.03.03 Determine the optimal sites for skin punctures on infants, children and adults

Electives

- 11.15.03.04 Decontaminate puncture sites
- 11.15.03.05 Collect a blood sample using the unopette system
- 11.15.03.06 Collect a blood specimen using capillary tubes

- 11.15.04.00 Perform venipuncture
- 11.15.04.01 Demonstrate protocol for patient identification
- 11.15.04.02 Perform a venipuncture using the vacuum system
- 11.15.04.03 Perform a venipuncture using the syringe system
- 11.15.04.04 Perform a venipuncture using a butterfly
- 11.15.04.05 Collect blood using multiple draw technique in the correct order of draw

- 11.15.05.00 Perform special collection procedures
- 11.15.05.01 Collect blood cultures
- 11.15.05.02 Set up and perform a glucose tolerance test
- 11.15.05.03 Describe procedure for collection of blood bank specimens
- 11.15.05.04 Describe procedure for collection of timed specimens
- 11.15.05.05 Describe procedure for collection and transport of specimens requiring special handling

- 11.15.06.00 Perform difficult draw procedures
- 11.15.06.01 Describe unusual patient circumstances such as bruised puncture sites, IV drips, and arterial draws and how to cope with them
- 11.15.06.02 Describe complications associated with blood collections and how to overcome each

Electives

- 11.15.06.03 Discuss reasons for having to collect blood from the hand, wrist or ankle
- 11.15.06.04 Describe the Allen test and the procedure for an arterial draw
- 11.15.07.00 Perform quality control procedure
- 11.15.07.01 Distinguish/perform quality control measures when collecting blood specimens
- 11.15.07.02 Utilize safety equipment and procedures in specimen collection
- 11.15.07.03 Document procedures for "common" accidents occurring during specimen collection
- 11.15.07.04 Identify patients and correctly label their specimens
- 11.15.07.05 Determine when to perform recollections
- 11.15.07.06 Determine when to reject a specimen
- 11.15.08.00 Perform point of care testing
- 11.15.08.01 Perform glucose testing at the bedside
- 11.15.08.02 Perform modified Duke and Ivy bleeding time using a surgicutt
- 11.15.08.03 Perform bedside hemoglobin testing
- 11.15.08.04 Perform or observe sweat chloride testing
- 11.15.09.00 Demonstrate knowledge of infection control and observe all safety precautions
- 11.15.09.01 Identify policies and procedures for maintaining laboratory safety
- 11.15.09.02 Discuss modes of transmission of infection and methods for prevention
- 11.15.09.03 Identify and properly label biohazardous specimens

Electives

- 11.15.09.04 Describe safety measures that are followed when collecting blood specimens
- 11.15.09.05 Discuss in detail the universal precautions outlined by Center for Disease Control and OSHA
- 11.15.09.06 Discuss and perform proper infection control techniques, such as hand washing, gowning, gloving, masking and double-bagging
- 11.15.09.07 Define and discuss the term nosocomial infection
- 11.15.09.08 Describe appropriate procedures for disposing of used or contaminated needles
- 11.15.10.00 Perform a phlebotomy internship at a health care facility
- 11.15.10.01 Complete the prerequisites for eligibility to participate in the internship
- 11.15.10.02 Complete a minimum of 120-160 clinical hours
- 11.15.10.03 Complete 200 unassisted multiple draw venipuncture
- 11.15.10.04 Complete 200 unassisted successful micropuncture or finger sticks
- 11.15.10.05 Participate in laboratory operations including filing, processing, accessioning, centrifugation, and computer operations
- 11.15.10.06 Devise and implement appropriate methods of workload organization
- 11.15.10.07 Adhere to the standards of ethics and professionalism
- 11.15.10.08 Adhere to all safety regulations as established by the clinical site
- 11.15.10.09 Participate in community health fairs to obtain necessary numbers of micropuncture

Electives

- 11.15.11.00 Perform/observe pediatric and neonatal services**
- 11.15.11.01 Observe or perform specimen collection procedures on neonates
- 11.15.11.02 Observe or perform specimen collection procedures from infants in neonatal ICU
- 11.15.11.03 Observe or perform specimen collection procedures on pediatric patients
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- 11.15.12.00 Perform phlebotomy collections in a variety of settings**
- 11.15.12.01 Observe or perform specimen collection procedures in the Emergency Room
- 11.15.12.02 Observe or perform specimen collection procedures in each of the intensive care units (ICU) listed: Coronary (CICU), Medical (MICU), and surgical (SICU)
- 11.15.12.03 Perform specimen collection procedures on the maternity/obstetrics patients
- 11.15.12.04 Perform specimen collection procedures on medical and surgical patients
- 11.15.12.05 Perform specimen collection procedures on geriatric patients
- 11.15.12.06 Perform specimen collection procedures on psychiatric patients
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- 11.15.13.00 Perform special collection procedures**
- 11.15.13.01 Observe arterial blood gas collections
- 11.15.13.02 Collect specimens requiring special transport
- 11.15.13.03 Collect specimens from patients in isolation
- 11.15.13.04 Collect blood cultures
- 11.15.13.05 Conduct glucose tolerance test

Electives

- 11.15.13.06 Collect timed specimens including post prandial glucose, peak and trough antibiotic/drug assays
- 11.15.13.07 Perform blood bank specimen collection procedures
- 11.15.14.00 Perform difficult draw procedures
- 11.15.14.01 Observe and perform line draws such as heparin lock, CVC, etc.
- 11.15.14.02 Collect specimens using a syringe and a butterfly
- 11.15.14.03 Observe or perform capillary blood gas collection
- 11.15.14.04 Observe or perform hand/wrist and ankle/foot collections
- 11.15.14.05 Observe or perform NIDA collection
- 11.15.14.06 Observe or perform specimen collection procedures on patients receiving IV therapy, blood transfusions, dialysis therapy
- 11.15.15.00 Take a national phlebotomy registry examination
- 11.15.15.01 Complete eligibility requirements to take a national phlebotomy registry examination
- 11.15.15.02 Complete application process to take the phlebotomy registry examination
- 11.15.15.03 Sit for a national phlebotomy examination

Recommended Assessment: National Exam of International Academy of Phlebotomy Scientists

Electives

Sterilization and Disinfection-Minor Surgery and Instrumentation

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| 11.16.01.00 | Demonstrate knowledge of sterilization and disinfection |
| 11.16.01.01 | State the purpose of sanitization |
| 11.16.01.02 | Explain the principle involved in sterilizing materials in the autoclave, and explain why the length of time necessary for autoclaving varies according to type of article being sterilized |
| 11.16.01.03 | List three principles that should be followed when the autoclave is loaded |
| 11.16.01.04 | State the qualities of good wrapper for use in the autoclaving process |
| 11.16.01.05 | Explain the function of sterilization indicators, and list two types of indicators that may be used |
| 11.16.01.06 | Explain how incomplete sterilization can occur when using the autoclave |
| 11.16.01.07 | List the materials that are best sterilized in a dry heat oven |
| 11.16.01.08 | Identify four guidelines for operating the dry heat oven |
| 11.16.01.09 | Identify the steps for preparing infectious waste for disposal by infectious waste service |
| 11.16.01.10 | List four types of disinfectants commonly used in medical practice and explain basic guidelines for using chemical disinfectant |
| 11.16.02.00 | Demonstrate knowledge of surgical asepsis |
| 11.16.02.01 | Identify four types of procedures that require the use of surgical asepsis |
| 11.16.02.02 | List five guidelines that should be observed during a sterile procedure in order to maintain surgical asepsis |

Electives

- 11.16.03.00 Identify instruments used in minor surgery
- 11.16.03.01 State the function of transfer forceps
- 11.16.03.02 List four guidelines for using transfer forceps
- 11.16.03.03 Identify and explain the uses of the scalpel
- 11.16.03.04 Identify and explain the uses of the operating scissor
- 11.16.03.05 Identify and explain the uses of the suture scissor
- 11.16.03.06 Identify and explain the uses of the bandage scissor
- 11.16.03.07 Identify and explain the uses of the dissecting scissor
- 11.16.03.08 Identify and explain the uses of the thumb forcep
- 11.16.03.09 Identify and explain the uses of the splinter forcep
- 11.16.03.10 Identify and explain the uses of the dressing forcep
- 11.16.03.11 Identify and explain the uses of the tissue forcep
- 11.16.03.12 Identify and explain the uses of the mosquito hemostat
- 11.16.03.13 Identify and explain the uses of the straight hemostat
- 11.16.03.14 Identify and explain the uses of the sponge forceps
- 11.16.03.15 Identify and explain the uses of the hemostatic forceps
- 11.16.03.16 Identify and explain the uses of the needle holder
- 11.16.03.17 Identify and explain the uses of the towel clamp
- 11.16.03.18 Identify and explain the uses of the retractor
- 11.16.03.19 Identify and explain the uses of the probe
- 11.16.03.20 Identify and explain the uses of the vaginal speculum

Electives

- 11.16.03.21 Identify and explain the uses of the uterine dressing forcep
- 11.16.03.22 Identify and explain the uses of the uterine curette
- 11.16.03.23 Identify and explain the uses of the uterine sound
- 11.16.03.24 Identify and explain the uses of the uterine tenaculum

- 11.16.04.00 **Demonstrate knowledge of the types of wounds**
- 11.16.04.01 Explain the difference between a closed and an open wound
- 11.16.04.02 Give an example of one type of closed wound
- 11.16.04.03 Give an example of four types of open wounds
- 11.16.04.04 Explain the healing process

- 11.16.05.00 **Demonstrate knowledge of sutures**
- 11.16.05.01 Explain the method of measuring the diameter of suture material
- 11.16.05.02 Describe the different types of sutures
- 11.16.05.03 Categorize suturing needles according to their type of point and shape

- 11.16.06.00 **Demonstrate knowledge of assisting with minor surgery**
- 11.16.06.01 Explain the purpose of and the procedure for the Sebaceous cyst removal
- 11.16.06.02 Explain the purpose of and the procedure for the incision and drainage of localized infection
- 11.16.06.03 Explain the purpose of and the procedure for the needle biopsy
- 11.16.06.04 Explain the purpose of and the procedure for the ingrown toenail removal
- 11.16.06.05 Explain the purpose of and the procedure for the Colposcopy removal

Electives

- 11.16.06.06 Explain the purpose of and the procedure for the Cervical Punch biopsy
- 11.16.06.07 Explain the purpose of and the procedure for the Cryosurgery
- 11.16.06.08 Explain the principles underlying each step in minor surgery

- 11.16.07.00 **Demonstrate knowledge of sterile dressing change**
- 11.16.07.01 List the functions of a dressing
- 11.16.07.02 State the functions of a bandage and list the guidelines that should be observed when applying a bandage
- 11.16.07.03 Identify the common types of bandages
- 11.16.07.04 Explain the use of tubular gauze

Intro to Medications/Pharmacology

- 11.17.01.00 **Order and store medications**
- 11.17.01.01 Check inventory stock
- 11.17.01.02 Contact supplier
- 11.17.01.03 Rotate stock
- 11.17.01.04 Process order forms and invoice according to Drug Enforcement Agency (DEA) guidelines
- 11.17.01.05 Store medications properly
- 11.17.01.06 Prepare expired medication for disposal
- 11.17.01.07 Dispose of medications properly complying with government regulations

Electives

- 11.17.02.00 Calculate dosage according to physician's orders**
- 11.17.02.01 Use Physician's Desk Reference (PDR) and Facts Comparisons
- 11.17.02.02 Calculate oral dosage
- 11.17.02.03 Calculate parenteral dosage
- 11.17.02.04 Calculate pediatric dosage
- 11.17.02.05 Calculate intravenous dosage and rate of flow

- 11.17.03.00 Obtain and administer medications according to physician's orders**
- 11.17.03.01 Identify patient
- 11.17.03.02 Verify patient allergies
- 11.17.03.03 Use reference materials
- 11.17.03.04 Verify accuracy of medical order
- 11.17.03.05 Calculate dosages
- 11.17.03.06 Prepare and administer oral medications
- 11.17.03.07 Identify correct anatomical sites
- 11.17.03.08 Administer medications
- 11.17.03.09 Document medication administration
- 11.17.03.10 Document patient response to medications

- 11.17.04.00 Evaluate response to medication**
- 11.17.04.01 Identify possible adverse reactions to medications
- 11.17.04.02 Assess patient/client reaction to medications

Electives

- 11.17.04.03 Report adverse reactions to appropriate sources
- 11.17.04.04 Document patient/client response to medication

- 11.17.05.00 Dispense and instruct patients on use of medications
- 11.17.05.01 Provide written instructions
- 11.17.05.02 Demonstrate use of medications (e.g., side effects, adverse effects, interactions with other medications)
- 11.17.05.03 Prepare written prescription for physician's signature
- 11.17.05.04 Develop and maintain standing orders according to physician's protocol (e.g., prescription refill)

- 11.17.06.00 Record medications
- 11.17.06.01 Log schedule of drugs on patient's chart
- 11.17.06.02 Log schedule of drugs on medication log
- 11.17.06.03 Log control/lot number and expiration date
- 11.17.06.04 Obtain countersignature of physician

General Office Procedures

- 11.18.01.00 Maintain medical records
- 11.18.01.01 File information alphabetically or numerically according to office protocol
- 11.18.01.02 Retrieve patient record from file
- 11.18.01.03 Prepare cross-reference file
- 11.18.01.04 Process and file incoming medical reports

Electives

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|--------------------|---|
| 11.18.02.00 | Explain office procedures and protocol |
| 11.18.02.01 | Prepare, edit, and distribute office procedure brochure |
| 11.18.02.02 | Advise patient of office hours |
| 11.18.02.03 | Advise patient of billing structure |
| 11.18.02.04 | Review patient bill of rights |
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| 11.18.03.00 | Operate computer |
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| 11.18.04.00 | Operate office equipment |
| 11.18.04.01 | Operate transcriber |
| 11.18.04.02 | Operate calculator |
| 11.18.04.03 | Operate checkwriter |
| 11.18.04.04 | Operate typewriter |
| 11.18.04.05 | Operate copy machine |
| 11.18.04.06 | Operate postage meter |
| 11.18.04.07 | Operate fax machine |
| 11.18.04.08 | Operate multiline telephone system |
| 11.18.04.09 | Operate credit card impresser |
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| 11.18.05.00 | Write and process office communications |
| 11.18.05.01 | Compose and type business correspondence |
| 11.18.05.02 | Type letters from dictating machine |
| 11.18.05.03 | Compose and keyboard interoffice memos |

Electives

- 11.18.05.04 Complete appropriate consent forms
- 11.18.05.05 Address envelopes
- 11.18.05.06 Process incoming mail

- 11.18.06.00 Open and close office
- 11.18.06.01 Check for safety hazards
- 11.18.06.02 Maintain environmental service
- 11.18.06.03 Pull patients charts
- 11.18.06.04 Check examining rooms for cleanliness and supplies
- 11.18.06.05 File completed records in locked cabinets
- 11.18.06.06 Place money in safe
- 11.18.06.07 Activate alarm system
- 11.18.06.08 Secure office equipment
- 11.18.06.09 Secure and lock doors

- 11.18.07.00 Demonstrate telephone techniques according to office protocol
- 11.18.07.01 Receive calls
- 11.18.07.02 Apply oral communication skills
- 11.18.07.03 Receive, evaluate and record telephone messages
- 11.18.07.04 Write legibly
- 11.18.07.05 Obtain and record messages from recording device
- 11.18.07.06 Obtain and record messages from answering service

Electives

- | | |
|-------------|---|
| 11.18.07.07 | Screen calls |
| 11.18.07.08 | Transfer calls |
| 11.18.07.09 | Obtain information for doctor to return calls |
| 11.18.07.10 | Handle emergency calls |
| 11.18.07.11 | Make arrangements for patient's admission to hospital |
| 11.18.07.12 | Make referrals |
| 11.18.07.13 | Phone new and refill prescriptions to pharmacy |
| | |
| 11.18.08.00 | Schedule appointments according to office protocol |
| 11.18.08.01 | Write appointments legibly |
| 11.18.08.02 | Prepare appointments calendar |
| 11.18.08.03 | Record appointments |
| 11.18.08.04 | Prepare appointment cards |
| 11.18.08.05 | Maintain recall system |
| 11.18.08.06 | Confirm appointments |
| 11.18.08.07 | Make referral appointments for patients |
| | |
| 11.18.09.00 | Prepare patient chart for office visit according to office protocol |
| 11.18.09.01 | Obtain preliminary information |
| 11.18.09.02 | Prepare folder |
| 11.18.09.03 | Prepare charge slip |

Electives

- 11.18.10.00 Calculate charges on charge slip according to office protocol
- 11.18.10.01 Apply mathematical skills
- 11.18.10.02 Itemize fee for each service rendered (e.g., using superbill, pegboard, computer statement)
- 11.18.10.03 Operate calculator
- 11.18.11.00 Maintain administrative office supplies according to office protocol
- 11.18.11.01 Inventory office supplies
- 11.18.11.02 Prepare purchase requisitions
- 11.18.11.03 Order office supplies
- 11.18.11.04 Receive office supplies
- 11.18.11.05 Store office supplies
- 11.18.12.00 Maintain patient accounts according to office protocol
- 11.18.12.01 Apply mathematical skills
- 11.18.12.02 Apply basic bookkeeping fundamentals
- 11.18.12.03 Prepare ledger
- 11.18.12.04 Record charges and credits
- 11.18.12.05 Total charges using calculator
- 11.18.12.06 Interpret and explain doctor's fees
- 11.18.12.07 Compose itemized statement
- 11.18.12.08 Compose collection letter
- 11.18.12.09 Track accounts receivable and prepare aging reports

Electives

Patient Care Skills

(Multi 126)

- | | |
|--------------------|---|
| 11.19.01.00 | Demonstrate knowledge of patient care skills in relationship to the nursing profession |
| 11.19.01.01 | Compare jobs description of PCA to long term care NA |
| 11.19.01.02 | Recognize differences between acute care/chronic care |
| 11.19.01.03 | Respect lines of authority as shown by an organizational chart |
| 11.19.01.04 | Function under standards of care as stated by Ohio Board of Nursing |
| 11.19.02.00 | Work safely in an acute care institution |
| 11.19.02.01 | Identify categories of occupational and safety hazards |
| 11.19.02.02 | Distinguish illness from injury |
| 11.19.02.03 | State how toxic and/or infectious substances enter the body |
| 11.19.02.04 | Protect self in a health care setting |
| 11.19.02.05 | Reduce hazards in a health care setting |
| 11.19.02.06 | Read MSDS sheet |
| 11.19.03.00 | Practice universal precautions |
| 11.19.03.01 | Explain each element of the chain of infection and its contribution to infection |
| 11.19.03.02 | Recognize signs and symptoms of infection |
| 11.19.03.03 | Distinguish between medical asepsis and surgical asepsis |
| 11.19.03.04 | Wash hands correctly |
| 11.19.03.05 | Perform isolation techniques |

Electives

- 11.19.03.06 Identify principles of surgical asepsis
- 11.19.03.07 Prepare a sterile field
- 11.19.03.08 Add sterile items to a sterile field
- 11.19.03.09 Pour a sterile solution
- 11.19.03.10 Don sterile gloves

- 11.19.04.00 Provide wound care and irrigations**
- 11.19.04.01 Discuss the body's response during each stage of the wound-healing process
- 11.19.04.02 Explain factors that impair or promote normal wound healing
- 11.19.04.03 Administer a wound irrigation
- 11.19.04.04 Remove sutures or staples
- 11.19.04.05 Demonstrate care of a wound drainage system
- 11.19.04.06 Apply dry, pressure, wet-to-dry, and synthetic dressing
- 11.19.04.07 Assess CVP site and change dressing
- 11.19.04.08 Discuss purposes of binders, bandages and slings
- 11.19.04.09 Apply bandages
- 11.19.04.10 Apply binders
- 11.19.04.11 Apply a sling
- 11.19.04.12 Assess IV site

Electives

- 11.19.05.00** **Care for the preoperative and postoperative patient**
- 11.19.05.01 Explain the rationale of postoperative exercises
- 11.19.05.02 Instruct patient in postoperative exercises
- 11.19.05.03 Identify benefits and risks associated with shaving a surgical site
- 11.19.05.04 Prepare a surgical site
- 11.19.05.05 Prepare a postoperative patient unit
- 11.19.05.06 Complete a preoperative check list
- 11.19.05.07 Perform postoperative care

- 11.19.06.00** **Apply hot and cold therapy**
- 11.19.06.01 Identify the effects of heat and cold on the body
- 11.19.06.02 Identify the risks to clients related to hot and cold applications
- 11.19.06.03 Explain common guidelines used to protect clients who receive hot and cold applications
- 11.19.06.04 Apply dry heat applications, hot moist compresses, warm soaks, dry cold applications, moist cold applications
- 11.19.06.05 Administer a warm sitz bath
- 11.19.06.06 Place a hypothermia blanket

- 11.19.07.00** **Provide ostomy care**
- 11.19.07.01 Identify types of bowel and bladder diversions
- 11.19.07.02 Explain differences in color and consistency of drainage based on location of an ostomy

Electives

- 11.19.07.03 Describe methods used to maintain skin integrity during pouching of ostomies
- 11.19.07.04 Pouch an enterostomy
- 11.19.07.05 Irrigate a colostomy
- 11.19.07.06 Drain and rinse an ostomy appliance

- 11.19.08.00 Care for client with a nasogastric/nasointestinal tube or a gastric tube
- 11.19.08.01 Demonstrate appropriate technique for administering bolus tube feeding
- 11.19.08.02 Demonstrate appropriate technique for administering continuous tube feeding
- 11.19.08.03 Demonstrate appropriate care of exit site for gastrostomy/jej unostomy tube
- 11.19.08.04 Verify tube placement for a feeding tube
- 11.19.08.05 Remove a nasogastric/intestinal tube
- 11.19.08.06 - Irrigate a nasogastric tube
- 11.19.08.07 Calculate I & O for patient on gastric lavage/gavage

- 11.19.09.00 Meet urinary elimination needs of patient
- 11.19.09.01 Identify factors that alter normal voiding
- 11.19.09.02 Measure and record intake and output
- 11.19.09.03 Insert a straight or indwelling catheter
- 11.19.09.04 Perform catheter care
- 11.19.09.05 Obtain catheterized specimen for residual urine

Electives

- 11.19.09.06 Perform catheter irrigation
- 11.19.09.07 Remove retention catheter
- 11.19.09.08 Apply condom catheter

- 11.19.10.00 Meet bowel elimination needs of patient
- 11.19.10.01 Describe factors that impede normal bowel elimination
- 11.19.10.02 Insert a rectal tube
- 11.19.10.03 Remove fecal impaction digitally
- 11.19.10.04 Administer an enema

- 11.19.11.00 Collect specimens
(Competencies as listed in 11.13 Laboratory Procedures)

- 11.19.12.00 Care for patients on oxygen therapy
- 11.19.12.01 Discuss indications for oxygen therapy
- 11.19.12.02 Recognize hazards of oxygen therapy
- 11.19.12.03 Use oxygen safety guidelines
- 11.19.12.04 Distinguish between different means of oxygen administration
- 11.19.12.05 Apply a nasal cannula, an oxygen mask
- 11.19.12.06 Provide pulmonary toilet
- 11.19.12.07 Identify mechanisms of tracheal suctioning
- 11.19.12.08 Apply principles of wound care in the management of tracheostomy suctioning
- 11.19.12.09 Apply pulse oximetry

Electives

- 11.19.12.10 Understand pulse oximetry values and bring to RN's attention
- 11.19.12.11 Care for a patient with chest tubes
- 11.19.13.00 Care for patient receiving cardiac monitoring
(Competencies as listed in 11.12 Diagnostic Procedures)
- 11.19.14.00 Provide neurological assessment of patient
 - 11.19.14.01 Assess level of consciousness
 - 11.19.14.02 Assess pupil response
 - 11.19.14.03 Assess motor response
 - 11.19.14.04 Assess reflexes
 - 11.19.14.05 Recognize deviations from normal

Recommended Assessment: Skill evaluation at Columbus State Community College.
Mastery of all competencies in combination with:

11.2 Diagnostic Procedures

11.3 Laboratory Procedures

meets requirements of Mult 126.

Homemaker-Home Health Aide

(Mult 122)

- 11.20.01.00 State why homemaker-home health aide services are needed
 - 11.20.01.01 State the reasons for providing service in the home
 - 11.20.01.02 Explain the purposes and goals of homemaker-home health aide service
 - 11.20.01.03 Identify clients' rights, as mandated by federal, state and local laws
 - 11.20.01.04 Describe what can and cannot be done in the role of homemaker-home health aide

Electives

- 11.20.01.05 Identify general skills and specific skills that this course will teach
- 11.20.01.06 Describe the increase in number of homemaker-home health aide service programs since the United States since homemaker-home health aide services first began
- 11.20.01.07 Express expectations and responsibilities with respect to the training course
- 11.20.02.00 Describe the role of the homemaker-home health aide
- 11.20.02.01 Describe meaningfully how the role of the homemaker-home health aide meshes with the rest of the home care team
- 11.20.02.02 Identify the special responsibilities of the homemaker-home health aide on the home care team
- 11.20.02.03 Describe those features and changes in home and family life to which the homemaker-home health aide should be alert
- 11.20.02.04 Describe the tasks and responsibilities of the homemaker-home health aide in a variety of home care situations
- 11.20.02.05 Define the qualities of a successful homemaker-home health aide
- 11.20.03.00 Understand how agencies make services available to clients and families
- 11.20.03.01 Describe an agency or program that provides homemaker-home health aide services, its purpose and organization
- 11.20.03.02 Describe how an agency makes homemaker-home health aide services available by establishing procedures and policies, by developing plans of care bases on need and by professional assessments, and by providing supervision and guidance
- 11.20.03.03 Describe responsibility of the agency to homemaker-home health aides and staff

Electives

11.20.04.00 Communicate effectively with the client

11.20.04.01 Identify the ways in which people communicate with each other

11.20.04.02 Describe the difference between verbal and nonverbal communication

11.20.04.03 Describe how communicative skill of the homemaker-home health aide helps assure the provision of quality in-home care to clients and families

11.20.04.04 Describe methods for achieving good communication with others

11.20.05.00 Understand basic human needs

11.20.05.01 Describe basic needs which homemaker-home health aide service might be needed

11.20.05.02 Describe the importance of the family to individuals and society

11.20.05.03 Identify ways in which individuals and families differ

11.20.05.04 Express reasons the homemaker-home health aide must show respect for clients' cultural and lifestyle differences

11.20.05.05 Describe how people may feel when basic needs are not met

11.20.06.00 Understand and work with children

11.20.06.01 Identify the basic physical and emotional needs of children

11.20.06.02 Identify the basic growth stages of childhood and some behaviors typical of each

11.20.06.03 Recognize common reactions of children and other family members to illness or stress and how they might be handled

11.20.06.04 Describe family situations in which homemaker-home health aide service may be helpful

11.20.06.05 Identify ways in which the homemaker-home health aide can establish and maintain relationships with children and family members

Electives

- 11.20.06.06 Distinguish between discipline and punishment and between appropriate and inappropriate discipline
- 11.20.06.07 Recognize changes or events in a family that the homemaker-home health aide should report to the supervisor
- 11.20.06.08 Recognize common signs of child abuse
- 11.20.07.00 Understand and work with older clients**
- 11.20.07.01 Discuss attitudes and beliefs about older persons
- 11.20.07.02 Identify myths about the aging process
- 11.20.07.03 Demonstrate understanding and sensitivity to differences in older clients
- 11.20.07.04 Describe general characteristics, particular needs-physical, financial and emotional-and problems of older clients
- 11.20.07.05 Describe how homemaker-home health aides help in meeting these needs
- 11.20.07.06 Identify attitudes and lifestyles which promote positive mental and physical health for elderly people
- 11.20.07.07 Discuss the impact of race, ethnicity, class and poverty on health
- 11.20.07.08 Identify methods of preventing dependency and excessive disability, and maximizing rehabilitation
- 11.20.07.09 Identify types and evident of elder abuse which might occur in the home
- 11.20.07.10 Identify organizational policies and state or local laws regarding suspected elder abuse, neglect and mistreatment

Electives

- 11.20.08.00** Understand and work with clients who are ill
- 11.20.08.01 Identify the principal goals in working with clients who are ill
- 11.20.08.02 Identify some of the ways clients, family members and significant others may react to illness
- 11.20.08.03 Recognize changes in behavior of individuals or informal caregivers that require professional assessment or re-evaluation
- 11.20.08.04 Recognize the homemaker-home health aide's relationship and responsibility to the client, family members, informal caregivers, the agency and the care team
- 11.20.09.00** Understand and work with clients with disabilities
- 11.20.09.01 Distinguish between and identify the relatedness of a disability and an illness
- 11.20.09.02 Encourage an appropriate level of independence for the particular client
- 11.20.09.03 Demonstrate a general knowledge of the problems and needs of clients with developmental disabilities
- 11.20.09.04 Identify the principal goals in working with clients who are disabled and their families
- 11.20.09.05 Help families accept and cope with the stress factors involved in caring for persons with disabilities
- 11.20.09.06 Help families understand capabilities and limitations of clients with disabilities
- 11.20.09.07 Help individuals develop to the best of their abilities through carrying out plans of care developed jointly by specialists, the individuals and their families
- 11.20.09.08 Describe the nature and general characteristics of Alzheimer's Disease as a progressive illness

Electives

- 11.20.10.00** **Understand and work with mental illness**
- 11.20.10.01 Identify some of the characteristics of mental health
- 11.20.10.02 Describe some of the concepts and misconceptions about mental illness
- 11.20.10.03 Describe how the homemaker-home health aide's contribution can be helpful to individuals, families and to the mental health team
- 11.20.10.04 Recognize that emotional conflict and stress can affect the physical health of an individual
- 11.20.11.00** **Maintain a clean, safe and healthy environment**
- 11.20.11.01 Recognize the importance of a clean and well-maintained home environment to health and safety, and its relationship to the plan of care
- 11.20.11.02 Identify the appropriate home maintenance role and tasks a homemaker-home health aide usually performs
- 11.20.11.03 Perform basic cleaning, housekeeping and maintenance tasks
- 11.20.11.04 Choose appropriate procedures, equipment and supplies, and improvise for these when supplies, equipment, and monetary resources are limited
- 11.20.11.05 Recognize when it is and when it is not appropriate to obtain the assistance of others in the household with home maintenance
- 11.20.11.06 Instruct others in the home to assist with housecleaning and maintenance tasks
- 11.20.12.00** **Provide the client with food and adequate nutrition**
- 11.20.12.01 Identify how foods and nutrition contribute to physical, social and psychological health
- 11.20.12.02 Discuss how the care plan is followed in carrying out food-related responsibilities, including modified diets

Electives

- 11.20.12.03 List factors influencing individual and family food habits
- 11.20.12.04 Plan meals that provide for adequate nutrition for individuals and families on both general and modified diets
- 11.20.12.05 Shop for, plan, prepare and serve food attractively and economically, with attention to eating habits and preferences
- 11.20.12.06 Prepare and serve food for the elderly, the ill and persons on modified diets
- 11.20.12.07 Properly feed those who cannot feed themselves
- 11.20.12.08 Store food safely
- 11.20.13.00 Manage time, energy, money and other resources
- 11.20.13.01 Identify ways to conserve time and energy while providing service
- 11.20.13.02 Identify resources within the family
- 11.20.13.03 Identify what responsibility for resource management may be expected of the homemaker-home health aide
- 11.20.13.04 Describe community resources available to individuals and families
- 11.20.14.00 Provide home management when disease is present
- 11.20.14.01 Define and discuss the nature of infectious diseases
- 11.20.14.02 Describe major routes of disease transmission
- 11.20.14.03 Identify major transmissible diseases
- 11.20.14.04 Identify precautions that must be taken to prevent the spread of disease in household maintenance and personal care activities
- 11.20.14.05 Demonstrate the safe disposal of body of body wastes
- 11.20.14.06 Demonstrate the skill of handwashing

Electives

- 11.20.14.07 Demonstrate how to cover the nose and mouth when sneezing or coughing
- 11.20.14.08 Teach family caregivers to prevent the spread of disease
- 11.20.14.09 Describe, in general terms, acquired immunodeficiency syndrome (AIDS)
- 11.20.15.00 Provide care for the dying patient
- 11.20.15.01 Define hospice and relate the history of hospice
- 11.20.15.02 List the stages of grief
- 11.20.15.03 Recognize and report the signs and symptoms of impending death
- 11.20.15.04 Provide comfort and support of the dying patient
- 11.20.15.05 Recognize personal emotions regarding death and dying
- 11.20.16.00 Identify body systems, disorders and diseases
- 11.20.16.01 Identify the basic body systems as a basis for giving personal care
- 11.20.16.02 Identify body functions as they influence the application of personal care skills
- 11.20.17.00 Observe body functions and report observations
- 11.20.17.01 Demonstrate ability to accurately measure body temperature, and rates of pulse and respiration
- 11.20.17.02 Recognize and observe the common signs and symptoms of illness
- 11.20.17.03 Report and record signs and symptoms of illness and other pertinent information in a meaningful way

Electives

- 11.20.18.00** **Care for the client in bed**
- 11.20.18.01 Give personal care to meet client's needs for elimination, hygiene, grooming, skin care, foot and mouth care
- 11.20.18.02 Position the client in bed using principles of good body mechanics
- 11.20.18.03 Make an occupied bed
- 11.20.18.04 Identify environmental dangers to the client in bed
- 11.20.18.05 Demonstrate procedures for the following:
 *positioning *bedpan *urinal
 *bedbath *skincare *shampoo in bed
 *nail care *backrub *oral hygiene
 *making an occupied bed
- 11.20.19.00** **Care for the client not confined to bed**
- 11.20.19.01 Assist in transfer techniques and ambulation to help the client move to and from a bed, chair and tub
- 11.20.19.02 Identify safety hazards in the client's environment
- 11.20.19.03 Prepare for and assist in personal care activities related to hygiene and grooming
- 11.20.19.04 Demonstrate assisting in the following:
 *transfer from bed to chair *ambulation
 *sponge, rub or shower bath *shampoo, sink or tub
- 11.20.20.00** **Observe the client's ability to take medications and report observations**
- 11.20.20.01 Explain why homemaker-home health aides do not administer medications
- 11.20.20.02 Discuss the role of homemaker-home health aides in the use of medications by clients

Electives

- 11.20.20.03 Observe and report how medications are taken by clients
- 11.20.20.04 Watch for, observe and report any unusual/unintended reactions to medications
- 11.20.20.05 Suggest methods of avoiding medication error
- 11.20.20.06 Store medication correctly
- 11.20.20.07 Encourage client to dispose of old medications correctly and report disposal

- 11.20.21.00 Provide rehabilitation
- 11.20.21.01 Assist clients with range of motion exercises
- 11.20.21.02 Assist clients with disabilities to perform the activities of daily living
- 11.20.21.03 Demonstrate assisting with the following:
 - *active and passive range of motion exercises
 - *ambulation using two of three types of assistive device such as crutches, walkers, and various kind of canes

- 11.20.22.00 Provide health and emergency procedures
- 11.20.22.01 Apply dressings using a non-sterile technique
- 11.20.22.02 Apply both moist or dry, hot and cold treatments
- 11.20.22.03 Weigh person and record
- 11.20.22.04 Respond appropriately in an emergency

- 11.20.23.00 Apply knowledge and skills during a 17-20 hour practicum
- 11.20.23.01 Dress properly
- 11.20.23.02 Assemble needed supplies

Electives

- 11.20.23.03 Review the record-ascertain the plan of care associated with assigned tasks; consult staff members if necessary
- 11.20.23.04 Establish a relationship by being sensitive to client needs and respecting the family's lifestyle
- 11.20.23.05 Provide services specified in the care plan, using the following learned skills and knowledge:
 *organize work to conserve time and energy
 *work safely and effectively
 *leave the home or client's areas neat and clean
 *Respect and encourage the independence of the client
- 11.20.23.06 Help the family accept and carry out needed care and treatment as found in the plan of care
- 11.20.23.07 Report and record activities performed, observe conditions and any changes and problems not previously known to the agency
- 11.20.23.08 Work with the home care team or supervisor in an effective and productive manner to provide needed services
- 11.20.23.09 Know what procedure to follow if an emergency arises
- 11.20.23.10 Recognize and discuss the need for services provided by other organizations in the community

Recommended Assessment: The "Model Curriculum and Teaching Guide for the Instruction of the Homemaker-Home Health Aide", developed by the National Homecaring Council, qualifies the student to take the Home Health Aide examination for certification.

Disability Education

- 11.21.01.00 Identify etiology of disabling conditions and diseases
- 11.21.01.01 Research and document known and suspected causes of disabling conditions/diseases
- 11.21.01.02 Investigate accepted methods of diagnosis of disabilities
- 11.21.01.03 Identify customary and alternative methods of treatment

Electives

- 11.21.02.00 Identify general characteristics of disabilities
- 11.21.02.01 Identify general physical characteristics of disabling conditions
- 11.21.02.02 Identify general psychomotor characteristics of disabling conditions
- 11.21.02.03 Identify general psychosocial characteristics of disabilities
- 11.21.02.04 Identify general cognitive characteristics of disabilities
- 11.21.02.05 Communicate needs and development

Community Health and Safety
(Mult 172)

- 11.22.01.00 Obtain safety certifications
- 11.22.01.01 Complete Advanced First Aid training according to American Red Cross standards
- 11.22.01.02 Complete Professional Rescuer-level (Course C) CPR training according to American Heart Association or American Red Cross standards
- 11.22.01.03 Complete Preventing Disease Transmission training according to American Red Cross standards
- 11.22.01.04 Complete HIV/AIDS training according to American Red Cross standards
- 11.22.01.05 Complete Community Water Safety training
- 11.22.01.06 Complete Adapted Aquatics training
- 11.22.02.00 Demonstrate knowledge of personal health and safety issues
- 11.22.02.01 Practice community safety habits
- 11.22.02.02 Identify classifications of medications

Electives

Recommended Assessment: Certification in all areas through American Red Cross and for American Heart Association.

Craft/Leisure Skills

- | | |
|--------------------|--|
| 11.23.01.00 | Learn techniques and apply craft skills |
| 11.23.01.01 | Develop a file on each craft |
| 11.23.01.02 | Perform the craft |
| 11.23.01.03 | Teach the craft |
| 11.23.01.04 | Problem solve the craft activity |
|
 | |
| 11.23.02.00 | Learn techniques and practice activity skills |
| 11.23.02.01 | Develop a file on each activity |
| 11.23.02.02 | Perform the activity |
| 11.23.02.03 | Teach the activity |
| 11.23.02.04 | Problem solve the activity |
|
 | |
| 11.23.03.00 | Develop individual treatment skills to develop, deliver, and document appropriate client activities |
| 11.23.03.01 | Perform assessment skills |
| 11.23.03.02 | Develop a patient care plan |
| 11.23.03.03 | Provide individualized activity program |
| 11.23.03.04 | Document patient's participation and progress in activity program |
| 11.23.03.05 | Prepare program evaluation |

Electives

- 11.23.03.06 **Make relevant program recommendations**
- 11.23.03.07 **Prepare program summaries**

- 11.23.04.00 **Demonstrate activity analysis and adaptation skills**
- 11.23.04.01 **Perform activity and function analysis**
- 11.23.04.02 **Demonstrate activity adaptation skills**
- 11.23.04.03 **Demonstrate appropriate safety measure in activity adaptations**

Human Development

- 11.24.01.00 **Demonstrate knowledge of human reproduction and sexuality**
- 11.24.01.01 **Identify anatomy and physiology of the male and female human reproductive systems**
- 11.24.01.02 **Identify the stages of pregnancy and the corresponding stages of fetal development**
- 11.24.01.03 **Identify genetic disorders that can be traced to heredity**
- 11.24.01.04 **Identify ways specific birth defects can be prevented**

- 11.24.02.00 **Identify development during life stages**
- 11.24.02.01 **List physical, social, mental, emotional, and psychomotor characteristics of persons through the following life stages:**
 - a) newborn/infant through toddler
 - b) preschool
 - c) school years K-6, ages 5-12
 - d) adolescent
 - e) young adult, to age 40 years
 - f) middle adult, 40-60 years of age
 - g) older adult, over 60 years of age

Electives

- 11.24.03.00 Identify and discuss issues related to death/dying
- 11.24.03.01 Define physiological (functions) of death
- 11.24.03.02 Locate community agencies/programs that assist persons with death/dying needs

Surgical Technology

- 11.25.01.00 Demonstrate knowledge of surgical technology program organization
- 11.25.01.01 Describe safety procedures
- 11.25.01.02 Describe health care facilities
- 11.25.01.03 Describe hospital organization and management
- 11.25.01.04 Describe operating room personnel
- 11.25.01.05 List surgical team members
- 11.25.01.06 Identify aspects of the physical environment of the surgical suite
- 11.25.01.07 Outline interdepartmental relations
- 11.25.01.08 Discuss communication and rapport
- 11.25.01.09 Introduce the history of surgery
- 11.25.01.10 Describe surgery as it is today
- 11.25.01.11 Ethical, moral and legal responsibilities
- 11.25.01.12 Class discussion of surgical conscience

Electives

- 11.25.02.00** Discuss physiology of organs as they relate to surgical repair procedures
- 11.25.02.01 Explain the surgical procedures performed on the skin
- 11.25.02.02 Describe surgical procedures performed on the skeletal system
- 11.25.02.03 After required reading and instruction, describe the surgical procedures of the nervous system with 85% accuracy based on test/quiz
- 11.25.02.04 List and describe the surgical procedures of the special senses
- 11.25.02.05 Describe the surgical procedures of the heart
- 11.25.02.06 Describe the surgical procedures of the respiratory system
- 11.25.02.07 Define the surgical procedures associated with the digestive system
- 11.25.02.08 Describe the surgical procedures of the urinary system
- 11.25.02.09 Describe the surgical procedures of the reproductive organs
- 11.25.03.00** Demonstrate principles of sanitation, sterilization, and disinfection
- 11.25.03.01 List the necessary factor for infection
- 11.25.03.02 Identify and describe the physical and chemical methods used to protect patients and workers from invasion by pathogenic microorganisms
- 11.25.04.00** Identify wound healing
- 11.25.04.01 Identify how tissue reacts to trauma
- 11.25.04.02 Describe the healing process
- 11.25.05.00** Demonstrate knowledge of principles of pharmacology
- 11.25.05.01 Review measurements and basic arithmetic

Electives

- 11.25.05.02 Demonstrate ability to properly mix drugs in operating room setting
- 11.25.05.03 Define general terminology associated with the pharmacological use of drugs in the operating room
- 11.25.05.04 Identify the principles of drug use in the care of the surgical patient
- 11.25.05.05 Explain the principles of anesthesia administration
- 11.25.06.00 Demonstrate patient care concepts**
- 11.25.06.01 Demonstrate an understanding of the surgical patient
- 11.25.06.02 Describe the physical, spiritual, and psychological patient needs
- 11.25.06.03 Demonstrate an understanding of the process used to obtain an informed consent for surgical procedure or treatment
- 11.25.06.04 Describe the identification process of the surgical patient
- 11.25.06.05 Prepare the operative site for surgery
- 11.25.06.06 Describe the application of thermoregulatory devices
- 11.25.06.07 Explain the principles of vital signs
- 11.25.06.08 Explain the principles of urinary catheterization and demonstrate the procedure
- 11.25.07.00 Provide asepsis in the surgical environment**
- 11.25.07.01 Discuss the concepts of asepsis and demonstrate their application
- 11.25.07.02 Define surgical conscience
- 11.25.07.03 Identify the principles and demonstrate the techniques of sterilization
- 11.25.07.04 Identify principles and demonstrate techniques of disinfection and antisepsis

Electives

- 11.25.08.00 Provide basic case preparation and procedures**
- 11.25.08.01 Identify basic instruments by type, function, and name and demonstrate care, handling and assembly
- 11.25.08.02 Identify and prepare basic surgical supplies
- 11.25.08.03 Identify suture materials and stapling devices and demonstrate preparation and handling technique
- 11.25.08.04 Identify, describe, and handle the various surgical needles
- 11.25.08.05 Demonstrate techniques of opening and preparing supplies and instruments needed for any operative procedure
- 11.25.09.00 Demonstrate surgical procedures**
- 11.25.09.01 Demonstrate techniques of opening and preparing supplies and instruments needed for any operative procedure in a simulated laboratory setting with the maintenance of asepsis at all times
- 11.25.09.02 Describe the operative sequence in the opening and closing of a surgical wound
- 11.25.09.03 Discuss the relevant anatomy of surgical procedures listed in the Surgical Technology Textbook
- 11.25.09.04 Identify the name and uses of special instruments, drugs, and supplies for the surgical procedures found in the textbook

HEART of OHIO TECH PREP CONSORTIUM

1996

Multi-Competency Health Technologies Model

PART II.B: Secondary Tech Prep Academic Competencies (Unleveled)

HEART of OHIO TECH PREP CONSORTIUM

SECONDARY ACADEMIC COMPETENCIES

Final, approved update, October 1997
Curriculum Pathways Committee

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HEART of OHIO TECH PREP CONSORTIUM
SECONDARY ACADEMIC COMPETENCIES

Reviewed & approved, October 1997

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PREFACE

How to Use This Competency List

The competencies listed in this document are exit competencies for the secondary component of Tech Prep programs. They represent what Tech Prep high school students are expected to be able to do by the end of grade 12.

Information offered in this preface includes:

- Philosophy underpinning Tech Prep academics
- Mathematics education as an example
- Bottom line for Tech Prep academics instruction
- Matrix indicating core and program-specific academic competencies
- Notes on organization of the competency list
- Acknowledgements

Background: What's Different about Tech Prep Academic Competencies?

Tech Prep is a systemic educational reform movement intended to prepare students for the technology-based occupations of the coming century. Here are some key points to know about Tech Prep secondary academics:

- ✓ Tech Prep academics are college preparatory academics for concrete learners. (That's 90% of all of us.)
- ✓ The goal is to prepare Tech Prep students to enter the college of their choice without the need for academic remediation.
- ✓ What makes Tech Prep academics different from traditional college prep academics is not the content. It is the way in which it is taught.

The following section uses *mathematics* as an example to illustrate the necessity for this approach, and some related methodologies.

Mathematics: A Prime Example

If we accept the premise that Tech Prep programs will demonstrate systemic educational change by providing new, creative, and innovative options for students, then we must agree that what has passed for mathematics education in the past will not and can not continue as mathematics education in the future.

The follow excerpts from current literature support this position:

Evidence from many sources shows that the least effective mode for mathematics learning is the one that prevails in most of America's classrooms: lecturing and listening. Despite daily homework, for most students and most teachers mathematics continues to be primarily a passive activity: teachers prescribe; students transcribe. Students simply do not retain for long what they learn by imitation from lectures, worksheets, or routine homework. Presentation and repetition help students do well on standardized tests and lower-order skills, but they are generally ineffective as teaching strategies for long-term learning, for higher-order thinking, and for versatile problem solving. (National Research Council. Everybody Counts — A Report to the Nation on the Future of Mathematics Education. 1989, p. 57.)

The National Council of Teachers of Mathematics have proposed five general goals for all K-12 students:

1. That students learn to value mathematics,
2. That students become confident in their ability to do mathematics,
3. That students become mathematics problem-solvers,
4. That students learn to communicate mathematically, and
5. That students learn to reason mathematically....

Toward this end, we see classrooms as places where interesting problems are regularly explored using important mathematical ideas. Our premise is that *what* a student learns depends to a great degree on *how* he or she has learned it.... This vision sees students studying much the same mathematics currently taught, but with quite a different emphasis. (NCTM. Curriculum and Evaluation Standards for School Mathematics. 1989, p. 5.)

For NCTM's vision for mathematics education to be realized, the vision of how students learn mathematics must shift "toward investigating, formulating, representing, reasoning, and applying a variety of strategies to the solution of problems . . . and away from being shown or told, memorizing and repeating.... {And the} role of teachers toward 'questioning and listening' . . . and away from 'telling' students what to do..." (NCTM, Assessment Standards for School Mathematics, 1995, p. 2).

Alternative methods for delivery of mathematics education should address the following:

1. Students should experience mathematics as active, engaging, and dynamic.
2. Mathematics instruction should at all times make appropriate use of technology, especially graphing calculators and computers.
3. Mathematics courses should make extensive use of writing assignments, open-ended projects, and cooperative learning groups.
4. Faculty should use a variety of teaching strategies and should employ a broad range of examples.

The Bottom Line for Teaching

As shown above, we can not continue to teach mathematics — or for that matter, any high school academics — the way they have always been taught. The Heart of Ohio Tech Prep Consortium officially encourages the kind of systemic change spelled out in the example just presented using mathematics education.

In other words, TECH PREP HIGH SCHOOL ACADEMIC INSTRUCTION SHOULD --

- ☞ Focus on developing critical thinking and problem-solving skills
- ☞ Incorporate cooperative learning techniques
- ☞ Include written group projects, developed in conjunction with business and industry, that address real-world problems
- ☞ Actively embrace career development and school-to-work opportunities
- ☞ Encourage global thinking and learning through multidisciplinary instruction, projects, and experiences

Core Academic Competencies and Program-Specific Competencies

The matrix on the next page shows--

1. Core competencies required of ALL TECH PREP STUDENTS by the time they complete high school.
2. Program-specific competencies required by the end of grade 12 FOR STUDENTS WHO SELECT A PARTICULAR TECH PREP SECONDARY PROGRAM that is linked with one or more college Tech Prep programs.

Important notes:

- ✓ The grade and sequence in which Tech Prep academic competencies are taught are up to the local school (though in some cases, this is determined naturally by progression of prerequisite skills).
- ✓ Regardless of the sequence, every student completing a high school Tech Prep program should have attained the academic competencies

(both core and program-specific) by the time he or she completes the high school Tech Prep program.

- ✓ The core competencies and program-specific competencies required by the end of grade 12 are the minimum requirements for successful completion of the high school Tech Prep program and subsequent matriculation into a college Tech Prep program. If time and resources allow, any school may choose to enrich its Tech Prep programs by teaching additional competencies that enhance the students' college and/or employment readiness.
- ✓ Instructors will notice that competencies listed in their discipline are generally equivalent to the college prep content they already teach (e.g., Algebra I, Geometry, Biology, Global History, etc.).
- ✓ Schools are advised to retain traditional names for academic courses (e.g., Algebra II, English IV) on the student's official transcript, to support their acceptance by selective-admissions colleges and universities, as well as for scholarship eligibility (e.g., NCAA). Although schools may organize and sequence Tech Prep academic course content differently from traditional college preparatory courses, students should have attained all of the requisite competencies by the end of grade 12, thereby addressing the expectations of these organizations.

**MATRIX NO. 1:
CORE ACADEMIC COMPETENCIES
REQUIRED OF ALL TECH PREP STUDENTS
BY THE END OF GRADE 12**

ACADEMIC COMPETENCIES				Individual Development Competencies	Technology Literacy Competencies	Professional Options (Technical & Employability Competencies)
Communications Literacy*	Mathematics Literacy*	Science Literacy*	Social/Cultural Literacy*			
All competencies listed	- Algebra - Numbers & number relations - Data analysis & probability	- Lab safety procedures - Scientific process - Biology/ecology	All competencies listed	All competencies listed	All competencies listed	See specific program model (separate document)
*Four years of college-prep English	*Minimum three years of college prep mathematics -- see Matrix No. 2 for additional program-specific requirements	*Minimum two years of lab science, one of which is biology -- see Matrix No. 2 for additional program- specific requirements	*Four years of college-prep humanities			

**MATRIX NO. 2:
ADDITIONAL ACADEMIC COMPETENCIES
REQUIRED FOR SPECIFIC TECH PREP PROGRAMS
IN GRADES 11-12***

(*In addition to core competencies required of all students)

TECH PREP PROGRAM MODEL (Gr. 11-12)	Mathematics Literacy Competencies*	Science Literacy Competencies*	Professional Options Competencies (Technical & Employability)
Automotive/Diagnostic Technologies	• Geometry • Technical Algebra	• Chemistry • Physics	See separate program model documentation
Business Technologies Core Model:			
■ Computerized Business Technology (CBT) Career Major	• Geometry • Technical Algebra	• Chemistry or Physics <i>(recommended but not required)</i>	See separate program model documentation
■ Business Management Career Major <i>(in process)</i>	TBA	TBA	TBA
Construction Technologies	• Technical Algebra • Geometry and/or Technical Trigonometry <i>(recommended but not required)</i>	• Physics • Chemistry <i>(recommended by not required)</i>	See separate program model documentation
Engineering Technologies Core Model:			
■ Architecture/ Construction Career Major	Select two: • Technical Algebra • Geometry • Technical Trigonometry	• Chemistry • Physics	See separate program model documentation

**MATRIX NO. 2:
ADDITIONAL ACADEMIC COMPETENCIES
REQUIRED FOR SPECIFIC TECH PREP PROGRAMS
IN GRADES 11-12***

(*In addition to core competencies required of all students)

TECH PREP PROGRAM MODEL (Gr. 11-12)	Mathematics Literacy Competencies*	Science Literacy Competencies*	Professional Options Competencies (Technical & Employability)
Engineering Core Model program, continued: ■ Design Engineering Career Major ■ Electronics Technology Career Major ■ Graphic Communications Career Major ■ Landscape Career Major ■ Manufacturing Career Major	Select two: ● Technical Algebra ● Geometry ● Technical Trigonometry	● Chemistry ● Physics	See separate program model
Environmental Technologies	● Geometry ● Technical Algebra	● Chemistry ● Environmental Geology <i>(specific to this program; see separate program model documentation)</i>	See separate program model documentation
Information Engineering Technologies	● Geometry ● Technical Algebra	● Chemistry ● Physics	See separate program model documentation
Multi-Competency Health Technologies ("Allied Health")	● Technical Algebra	● Chemistry	See separate program model documentation

Notes on Organization of the Competency List

- **Numbering format:**
Category
Subcategory
Competency (*9.03.12.00)
Competency Builder (9.03.12.11)
- An asterisk (*) indicates that the statement is a competency. Others are competency builders. Competency statements always end with ".00" in the builder columns.
- **Categories:**

1 = Communications Literacy	47 competencies
2 = Individual Development	11 competencies
3 = Mathematics Literacy	30 competencies
4 = Science Literacy	16 competencies
5 = Social/Cultural Literacy	21 competencies
6 = Technology Literacy	26 competencies
	151 total
- Professional Options (technical) competencies are not included. The set of specific technical competencies used will depend on the particular Tech Prep program model. These are contained in separate documents available from each school's representative to the Tech Prep Consortium Implementation Committee.
- Communications Literacy competencies do not include builders.
- Individual Development category does not include subcategories.

Acknowledgements

The original version of this competencies list (1992-94) was developed and reviewed by over 80 representatives of K-12 and higher education institutions as well as members of business, industry, and labor organizations who donated their time to help Tech Prep get on its feet in Central Ohio. The current version was reviewed and approved by representatives of Ohio University, Columbus State Community College, and the Curriculum Pathways Committee of the Heart of Ohio Tech Prep Consortium. The preface was prepared by Leigh Trapp, Larry Lance, and Connie Faddis. A special thank you goes to Dr. John Furlow of OU-Lancaster, Dr. David Hockenbery of Columbus State, and Larry Lance of Columbus State.

COMMUNICATIONS LITERACY COMPETENCIES

Effective Reading Skills

- *1.01.01.00 Differentiate between fact, opinion, and inference.
- *1.01.02.00 Cite details that support or do not support predictions.
- *1.01.03.00 Recognize the intent and use of propaganda.
- *1.01.04.00 Identify and summarize ideas, information, and events that are explicitly stated in written material.
- *1.01.05.00 Explain the sequence of time, places, events, and ideas.
- *1.01.06.00 Identify and explain the main and subordinate ideas (stated or implied) in a written work.
- *1.01.07.00 Apply interpretive level comprehension skills to generate ideas and/or hypotheses about the content.
- *1.01.08.00 Find, understand, interpret, and apply information from a variety of sources (books, manuals, newspapers, periodicals, directories, reference works, computer printouts, and electronic sources).
- *1.01.09.00 Use the features of books and reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix, and bibliography.
- *1.01.10.00 Define and use unfamiliar words and specialized vocabulary (including abbreviations, acronyms, concepts, and jargon) by using structural analysis, decoding, contextual cues, dictionaries, and computers.
- *1.01.11.00 Read and understand short notes, memos, letters, and forms.
- *1.01.12.00 Read and follow complex directions.
- *1.01.13.00 Determine the author's purpose.
- *1.01.14.00 Read, evaluate, and respond critically to various literature forms, genres, and printed media.
- *1.01.15.00 Recognize and interpret organizational patterns of writing (e.g., cause and effect, comparison and contrast, and simple listing).

- *1.01.16.00 Identify the structural elements of literature (e.g., plot, theme, character, mood, setting, and point of view).
- *1.01.17.00 Identify literary devices (e.g., metaphor, foreshadowing, flashback, allusion, satire, and irony).
- *1.01.18.00 Explore and analyze a variety of cultural elements, attitudes, beliefs, and value structures through reading.

Effective Speaking and Presentation Skills

- *1.02.01.00 Give oral directions and clear explanations.
- *1.02.02.00 Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with individuals.
- *1.02.03.00 Demonstrate correct usage of vocabulary.
- *1.02.04.00 Demonstrate an awareness and understanding of interpersonal communication skills (verbal and nonverbal) in one-to-one and small group settings (role playing).
- *1.02.05.00 Speak effectively using nonverbal communication such as eye contact, posture, and gestures.
- *1.02.06.00 Select topics suitable to audience, situation, and purpose.
- *1.02.07.00 Demonstrate effective speaking skills in seeking employment and in utilizing management skills on the job.
- *1.02.08.00 Give formal and informal talks and speeches.
- *1.02.09.00 Demonstrate the difference between informing and persuading and use the appropriate techniques of content and delivery for each purpose.
- *1.02.10.00 Use visual media.
- *1.02.11.00 Demonstrate proper telephone etiquette.

Effective Writing Skills

- *1.03.01.00 Demonstrate ability to use different forms of writing (e.g., literary response, business and technical communicative modes, personal responses, journals, research and recording).
- *1.03.02.00 Demonstrate appropriate selection of mode, purpose, audience, point of view, and organization of information in written assignments.
- *1.03.03.00 Demonstrate expertise in word processing, graphics, and/or desktop publishing aids for writing.
- *1.03.04.00 Apply writing process techniques: 1) Prewriting, 2) Drafting, 3) Revising, 4) Editing/proofreading, 5) Publishing.
- *1.03.05.00 Demonstrate ability to evaluate written assignments using a diagnostic rubric.
- *1.03.06.00 Develop and maintain a professional writing portfolio.

Listening Skills

- *1.04.01.00 Follow spoken directions.
- *1.04.02.00 Distinguish between fact and opinion.
- *1.04.03.00 Make inferences and draw conclusions from verbal and nonverbal messages.
- *1.04.04.00 Identify and comprehend the main-and subordinate ideas in lecture and discussions, questions to clarify information heard, and report accurately what others have said.
- *1.04.05.00 Restate or paraphrase a conversation to confirm one's own understanding of what was said.
- *1.04.06.00 Take accurate notes which summarize material presented from spoken conversations, including telephone messages.
- *1.04.07.00 Recognize multi-cultural differences when listening.

Critical Viewing/Graphic/Observation Skills

- *1.05.01.00 Read and understand graphs, charts, and tables to obtain factual information.
- *1.05.02.00 Produce and utilize effective communication skills in the development of graphs, tables, and charts to communicate ideas.
- *1.05.03.00 Critically view historical or contemporary events, via TV or video tape, and make appropriate observations.
- *1.05.04.00 Analyze the effects of advertising and other visual media for direct and hidden messages, including propaganda devices.
- *1.05.05.00 Communicate through use of video tape and computer presentations.

INDIVIDUAL DEVELOPMENT

- *2.00.01.00 Apply critical thinking skills to personal, family, and work problems for the well-being of self and others
 - 2.00.01.01 Differentiate between facts and assumptions.
 - 2.00.01.02 Develop inferences from data.
 - 2.00.01.03 Demonstrate an ability to evaluate arguments.
 - 2.00.01.04 Utilize deductive logic by predicting specific phenomena from general statements.
- *2.00.02.00 Apply problem-solving process to personal, family, and work-related problems for well-being of self and others
 - 2.00.02.01 Analyze and clarify own value structure.
 - 2.00.02.02 Evaluate the relationship between values and goals
 - 2.00.02.03 Establish priorities for short and long-term goals
 - 2.00.02.04 Describe the importance of flexibility when reevaluating goals
 - 2.00.02.05 Manage resources to achieve goals
 - 2.00.02.06 Identify adequate reliable information and resources for personal, family, and work-related problem solving.
 - 2.00.02.07 Create solutions to problems using technical means
 - 2.00.02.08 Compare and contrast the advantages and disadvantages of several solutions to a problem.
 - 2.00.02.09 Evaluate outcomes of a decision.
 - 2.00.02.10 Apply decision-making techniques in the workplace
 - 2.00.02.11 Apply technical problem solving abilities and creative talents to situations in the workplace

- *2.00.03.00 Assume a leadership role as a responsible family member and citizen
 - 2.00.03.01 Evaluate leadership styles appropriate for the workplace and/or home
 - 2.00.03.02 Identify ways to be a responsible citizen at home, at school, at work, and in community settings
 - 2.00.03.03 Develop effective communication skills.
 - 2.00.03.04 Determine ways to motivate others
 - 2.00.03.05 Demonstrate initiative to facilitate cooperation
- *2.00.04.00 Build and maintain constructive interpersonal relationships
 - 2.00.04.01 Assess and be sensitive to others' feelings and point of view
 - 2.00.04.02 Examine how individuals from various backgrounds contribute to work and personal situations
 - 2.00.04.03 Identify ways to work cooperatively with others of diverse background
 - 2.00.04.04 Analyze strategies to manage conflict
 - 2.00.04.05 Cooperate and compromise through teamwork and group participation
 - 2.00.04.06 Develop communication patterns that enhance family relationships
 - 2.00.04.07 Identify characteristics of love and commitment with family, friends, and others
 - 2.00.04.08 Understand ways to build and maintain strong, functional families
 - 2.00.04.09 Understand ways to build positive parent-child relationships
 - 2.00.04.10 Enhance personal development of self and others throughout the lifespan
 - 2.00.04.12 Develop a life-management plan
- *2.00.05.00 Develop skills to successfully cope with changes taking place in society.
 - 2.00.05.01 Analyze the effects of change
 - 2.00.05.02 Identify strategies for dealing with family change and stress

- 2.00.05.03 Identify family and work support resources and services
- 2.00.05.04 Evaluate the need for continuing education and training
- 2.00.05.05 Implement strategies to manage the effects of stress
- *2.00.06.00 Identify management strategies for balancing work and family roles and responsibilities
 - 2.00.06.01 Analyze the effects of work on family
 - 2.00.06.02 Analyze the effects of family on work
 - 2.00.06.03 Describe personal and family roles and issues
 - 2.00.06.04 Identify present and future family structures and responsibilities
 - 2.00.06.05 Analyze concerns of working parent(s)
 - 2.00.06.06 Evaluate importance of responsible parenting for individuals, families, and society
 - 2.0.0.06.07 Coordinate personal and career responsibilities for well-being of self and others
- *2.00.07.00 Develop strategies for lifelong career planning
 - 2.00.07.01 Assess knowledge, attitudes, skills, and aspirations
 - 2.00.07.02 Develop an awareness of careers and skills in a technological society.
 - 2.00.07.03 Complete and process job application forms
 - 2.00.07.04 Design a resume
 - 2.00.07.05 Demonstrate interviewing skills
 - 2.00.07.06 Compare and evaluate job opportunities
 - 2.00.07.07 Analyze organizational structures of the workplace
 - 2.00.07.08 Assess factors influencing wages, annual incomes, and job opportunities
 - 2.00.07.09 Identify strategies for keeping a job, advancing in a job, and increasing wages

- 2.00.07.10 Evaluate factors involved when assuming a new position within or outside an occupation/ organization
- 2.00.07.11 Identify strategies for dealing with career successes, changes, and/or disappointments
- 2.00.07.12 State the approximate number of years a person can expect to work after leaving high school.
- 2.00.07.13 Compare the advantages and disadvantages of multiple incomes
- 2.00.07.14 Analyze opportunities for personal and career growth
- 2.00.07.15 Evaluate career choices in relation to life-management plan
- 2.00.07.16 Formulate plan to achieve career goals
- *2.00.08.00 Develop habits and attitudes that reflect an appropriate work ethic.
 - 2.00.08.01 Analyze the value of work ethic in relation to personal and family values and goals
 - 2.00.08.02 Evaluate the relationship of self-esteem to work ethic
 - 2.00.08.03 Follow directions.
 - 2.00.08.04 Identify strategies to improve workplace policies and attitudes that support individuals and families.
 - 2.00.08.05 Develop a positive attitude
 - 2.00.08.06 Develop time management skills.
- *2.00.09.00 Establish a plan for using resources to meet individual and family needs and goals
 - 2.00.09.01 Analyze consumer rights and responsibilities
 - 2.00.09.02 Make informed consumer choices for the well-being of self and others
 - 2.00.09.03 Discuss the role of competitiveness in a global society.
 - 2.00.09.04 Make decisions related to selecting, obtaining, and maintaining clothing for self and family

- 2.00.09.05 Evaluate financial institutions and services (e.g., savings, investments, credit).
- 2.00.09.06 Plan strategies to facilitate self-responsibility in managing a financial plan
- *2.00.10.00 Evaluate entrepreneurship as a career option
 - 2.00.10.01 Evaluate the role of small business in the economy
 - 2.00.10.02 Analyze opportunities for new business.
 - 2.00.10.03 Examine considerations of starting a business
 - 2.00.10.04 Analyze responsibilities involved in managing a business .
 - 2.00.10.05 Examine factors involved in obtaining financing.
 - 2.00.10.06 Examine importance of effective record keeping.
 - 2.00.10.07 Examine factors involved in selecting a business location.
 - 2.00.10.08 Analyze importance of a customer service policy.
 - 2.00.10.09 Analyze how laws affect small business operations.
 - 2.00.10.10 Examine components of a marketing plan.
 - 2.00.10.11 Analyze importance of a business plan.
- *2.00.11.00 Make choices that promote wellness and good health for self and others
 - 2.00.11.01 Describe the significance of a healthy lifestyle
 - 2.00.11.02 Analyze interrelationship between food choices and wellness
 - 2.00.11.03 Identify strategies to promote optimal nutrition and wellness of individuals and families
 - 2.00.11.04 Prepare and serve nutritious foods
 - 2.00.11.05 Demonstrate proper use of equipment
 - 2.00.11.06 Maintain safe work and home environment

- 2.00.11.07 Identify substance use, abuse, and its effects on individuals, families, work and society.
- 2.00.11.08 Enhance self-esteem of self and others
- 2.00.11.09 Distinguish between responsible and irresponsible ways to express emotional and physical intimacy
- 2.00.11.10 Examine the role of the arts in cultural expression and identity.
- 2.00.11.11 Explore the significance of a variety of art forms.

MATHEMATICS LITERACY

Algebra

***3.01.01.00 Solve linear equations.**

3.01.01.01 Combine like terms.

3.01.01.02 Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions.

3.01.01.03 Solve equation in one variable utilizing one operation.

3.01.01.04 Solve equations in one variable utilizing two or more operations.

3.01.01.05 Describe and use the logic of equivalence in working with equations, inequalities, and functions.

3.01.01.06 Identify variables, constants, terms, e expressions, and coefficients.

3.01.01.07 Define absolute value.

3.01.01.08 Evaluate algebraic expressions.

3.01.01.09 Solve the literal equation or formula for a specified variable.

3.01.01.10 Recognize the properties of equalities.

3.01.01.11 Solve a 2x2 system of linear equations by elimination.

3.01.01.12 Solve a 2x2 system of linear equations by substitution.

3.01.01.13 Apply the rules for solving linear equations in one variable.

3.01.01.14 Use formulas.

3.01.01.15 Use handheld graphic calculators to solve linear equations and graph simple functions.

3.01.01.16 Solve linear equations in one variable containing an absolute value symbol.

***3.01.02.00 Use properties of exponents.**

- 3.01.02.01 Define exponent.
- 3.01.02.02 Compare and compute using scientific notation.
- 3.01.02.03 Determine values for the square root of any natural number.
- 3.01.02.04 Determine the principal square root and recognize square roots of negatives as being non-real.
- 3.01.02.05 Divide terms having factors with exponents.
- 3.01.02.06 Multiply and divide polynomial expressions.
- 3.01.02.07 Operate with radicals and leave the result in simplified form.
- 3.01.02.08 Apply the properties of exponents to simplify polynomial expressions.
- 3.01.02.09 Multiply terms having factors with exponents.
- 3.01.02.10 Solve radical equations.

***3.01.03.00 Factor a polynomial of two or more terms.**

- 3.01.03.01 Apply the distributive law in removing common factors.
- 3.01.03.02 Factor difference of two squares.
- 3.01.03.03 Factor quadratic trinomials.
- 3.01.03.04 Factor the sum and differences of perfect cubes.

***3.01.04.00 Solve linear inequalities and show the solution on a number line.**

- 3.01.04.01 Combine like terms.
- 3.01.04.02 Use the Substitution Property to evaluate expressions and formulas.
- 3.01.04.03 Evaluate algebraic expressions.
- 3.01.04.04 Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions.

- 3.01.04.05 Identify variables, constants, terms, expressions, and coefficients.
- 3.01.04.06 Solve equations in one variable utilizing two or more operations.
- 3.01.04.07 Describe and use the logic of equivalence in working with equations, inequalities, and functions.
- 3.01.04.08 Solve a linear inequality in one variable using two or more operations.
- 3.01.04.09 Define absolute value.
- 3.01.04.10 Solve problems involving statements of inequality.
- *3.01.05.00 Recognize, relate, and use the equivalent ideas of zeros of a function, roots of an equation, and solution of an equation in terms of graphical and symbolic representations.
- 3.01.05.01 Apply the distributive law in removing common factors.
- 3.01.05.02 Factor the difference of two squares.
- 3.01.05.03 Factor quadratic trinomials.
- 3.01.05.04 Combine like terms.
- 3.01.05.05 Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions.
- 3.01.05.06 Solve equation in one variable utilizing one operation.
- 3.01.05.07 Solve equations in one variable utilizing two or more operations.
- 3.01.05.08 Describe and use the logic of equivalence in working with equations, inequalities, and functions.
- 3.01.05.09 Identify variables, constants, terms, expressions, and coefficients.
- 3.01.05.10 Explore and describe characterizing features of functions.
- 3.01.05.11 Find X and Y intercepts of a line.
- 3.01.05.12 Decide whether or not a relation is a function. Use function notation. Find domains and ranges.

***3.01.06.00** Graph equations.

3.01.06.01 Develop graphical techniques of solution for problem situations involving functions

3.01.06.02 Explore and describe characterizing features of functions.

3.01.06.03 Describe problem situations by using and relating numerical, symbolic, and graphical representations

3.01.06.04 Use the language and notation of functions in symbolic and graphing settings.

3.01.06.05 Find X and Y intercepts of a line.

3.01.06.06 Write equations for a line.

3.01.06.07 Use a graphing calculator or computer to generate the graph of EL function.

3.01.06.08 Graph a linear equation using the slope-intercept method.

3.01.06.09 Translate among tables, algebraic expressions, and graphs of functions

3.01.06.10 Estimate shape of graphs of various functions and algebraic expressions.

3.01.06.11 Use handheld graphic calculators to solve linear equations and graph simple functions.

3.01.06.12 Graph basic functions using Cartesian coordinate system.

***3.01.07.00** Demonstrate the ability to translate statements and equations from written to algebraic form and algebraic to written form.

***3.01.08.00** Determine slope midpoint, and distance.

3.01.08.01 Solve problems related to sets of points on a Cartesian coordinate system.

***3.01.09.00** Model real-world phenomena with polynomial and exponential functions.

3.01.09.01 Use curve fitting to predict from data.

Geometry

(Note: It is appropriate to teach geometry to Tech Prep students with some theorems and proofs, but for maximum student engagement and success, the major focus should be on the more practical aspects of geometry, such as calculating volumes, surfaces, etc.)

- *3.02.01.00 Find perimeters, surface areas and volumes of geometric figures.
 - 3.02.01.01 Recognize and classify two- and three-dimensional figures (e.g., circles, triangles, rectangles, cylinders, prism).
 - 3.02.01.02 Create and interpret drawings of three-dimensional objects.
 - 3.02.01.03 Classify, label, and describe polygons and solids.
 - 3.02.01.04 Represent problem situations with geometric models and apply properties of figures.
 - 3.02.01.05 Use handheld graphic calculators to solve area and volume problems.
 - 3.02.01.06 Given the linear dimensions of various geometric shapes common to the technological industries, determine areas and volumes in English and metric units.
- *3.02.02.00 Explore compass and straight edge constructions in the context of geometric theorems.
- *3.02.03.00 Recognize, classify, and use properties of lines and angles.
 - 3.02.03.01 Demonstrate an understanding of angles and parallel and perpendicular lines.
 - 3.02.03.02 Define terms related to angles.
 - 3.02.03.03 Make constructions related to angles.
 - 3.02.03.04 Demonstrate an understanding of special angles.
 - 3.02.03.05 Understand the various units of measure of angles.
 - 3.02.03.06 Identify points, lines, and planes.
 - 3.02.03.07 Use the concept of between-ness.
 - 3.02.03.08 Measure angles correctly.

- *3.02.04.00 Describe and apply the properties of similar and/or congruent figures.

- 3.02.04.01 Be able to make scale drawings.

- *3.02.05.00 Solve right-triangle problems.

- 3.02.05.01 Apply the Pythagorean theorem.

- 3.02.05.02 Identify basic functions of sine, cosine, and tangent

- 3.02.05.03 Compute and solve problems using basic trig functions.

- *3.02.06.00 Demonstrate inductive and deductive reasoning through application to various subject areas.

- 3.02.06.01 Demonstrate an understanding of and ability to use proof.

Numbers and Number Relations

- *3.03.01.00 Estimate answers, compute, and solve problems involving real numbers.

- 3.03.01.01 Round off decimals to one or more places

- 3.03.01.02 Round and/or truncate numbers to designated place value.

- 3.03.01.03 Round off single and multiple digit whole numbers.

- 3.03.01.04 Estimate measurements.

- 3.03.01.05 Use mental computation when computer and calculator are inappropriate.

- *3.03.02.00 Compare and contrast the real number system, the rational number system' and the whole number system.

- *3.03.03.00 Determine if a solution to a mathematical problem is reasonable (estimate).

- *3.03.04.00 Select and compute using appropriate units of measure.

- 3.03.04.01 Convert, compare, and compute with common units of measurement within and/or across measurement systems.

Data Analysis and Probability

- *3.04.01.00 Collect and organize data into tables, charts, and graphs.
 - 3.04.01.01 Take a random sample from a population.
- *3.04.02.00 Determine the probability of an event.
 - 3.04.02.01 Determine the probability of more than one event.
 - 3.04.02.02 Use computer simulations and random number generation to estimate probability.
- *3.04.03.00 Understand and apply measures of central tendency, variability, and correlation.
 - 3.04.03.01 Compute and interpret means (averages).
 - 3.04.03.02 Compute and interpret median and/or mode.
 - 3.04.03.03 Understand what a normal distribution is.
 - 3.04.03.04 Understand what a uniform distribution is.

Technical Algebra

- *3.05.01.00 Evaluate and graph functions using rectangular coordinates.
 - 3.05.01.01 Graph inequalities in two variables.
 - 3.05.01.02 Analyze the effects of parameter changes on graphs.
- *3.05.02.00 Solve systems of linear equations and inequalities using matrices, graphs, and algebraic methods.
 - 3.05.02.01 Solve systems of linear equations with up to three variables.
 - 3.05.02.02 Solve a 2x2 system of linear equations using matrices.
 - 3.05.02.03 Describe and solve algebraic situations with matrices.

- *3.05.03.00 Understand the complex number system and exhibit facility with its operation.
 - 3.05.03.01 Solve problems having complex solutions.
 - 3.05.03.02 Examine complex numbers as zeros of functions.
 - 3.05.03.03 Graph basic functions using polar coordinate system.
 - 3.05.03.04 Graph using polar coordinates.
 - 3.05.03.05 Contrast and compare algebras of rational, real, and complex numbers with characteristics of a matrix algebra system.
 - 3.05.03.06 Determine factors and roots of a polynomial with complex roots.
 - 3.05.03.07 Graph complex numbers.
 - 3.05.03.08 Add, subtract, multiply and divide complex numbers in rectangular and polar form.
 - 3.05.03.09 Convert complex numbers from rectangular form to the exponential.
- *3.05.04.00 Analyze exponential and logarithmic functions.
 - 3.05.04.01 Identify and define inverse functions.
 - 3.05.04.02 Do calculations involving exponential and logarithmic expressions and functions.
 - 3.05.04.03 Use definitions to show the relationship between exponential and logarithmic functions.
 - 3.05.04.04 Graph the logarithmic and exponential functions.
 - 3.05.04.05 Describe and use inverse relationship between functions including exponential and logarithmic.
 - 3.05.04.06 Use graphing calculators to generate tables to plot exponential and logarithmic curves.
 - 3.05.04.07 Use properties of logarithms to solve problems.
 - 3.05.04.08 Use graphing calculators to calculate logarithms in bases other than 10.

3.05.04.09 Solve elementary logarithmic and exponential equations.

*3.05.05.00 Simplify and solve quadratic equations.

3.05.05.01 Simplify algebraic expressions and multiply and divide polynomials along with solving quadratic equations.

3.05.05.02 Solve a quadratic equation by factoring by completing the square, and by using the quadratic formula.

Technical Trigonometry

*3.06.01.00 Solve problems using the trigonometric functions.

3.06.01.01 Know the sign of each circular function in any quadrant.

3.06.01.02 Know the circular functions of the special angles, $\pi/6$, $\pi/4$, $\pi/3$ (30, 60, 90)

3.06.01.03 Define the circular functions on a circle of radius r with the center at the origin.

3.06.01.04 Understand the relationship of the circular functions and the trig functions.

3.06.01.05 Identify and use the trig functions for the sum of angles.

3.06.01.06 Solve right-triangle problems.

3.06.01.07 State the value of the trig functions of an angle using the reference angle.

3.06.01.08 Apply the law of sines to find measures of sides of angles of a triangle.

3.06.01.09 Apply the law of cosines in finding measures of sides and angles of triangles.

3.06.01.10 Convert between radians and degrees.

3.06.01.11 Solve problems with negative rotations.

3.06.01.12 Solve right triangle problems including application problems.

***3.06.02.00** Recognize and identify graphs of the trigonometric functions.

3.06.02.01 Recognize and graph basic trig curves.

3.06.02.02 Explore graphs in three dimensions.

3.06.02.03 Identify and define inverse functions.

3.06.02.04 Solve trigonometric equations and verify trigonometric identities.

3.06.02.05 Use the fundamental trig identities in performing operations.

***3.06.03.00** Demonstrate an understanding in the use of vectors.

3.06.03.01 Apply vectors in problem solutions

3.06.03.02 Deduce properties of figures using vectors.

3.06.03.03 Develop and use vectors to represent distance and magnitude including operations.

3.06.03.04 Explore relationships between complex numbers and vectors.

3.06.03.05 Add and subtract vectors geometrically.

3.06.03.06 Use graphing calculators in the study of vectors.

SCIENCE LITERACY

Chemistry

- *4.01.01.00 Explore atomic theory and present findings using various representational formats.
 - 4.01.01.01 Describe a mechanism of bond formation and identify the type of chemical bond formed as ionic, covalent, or metallic.
 - 4.01.01.02 Relate the concept of periodicity to atomic properties and the periodic table of elements.
 - 4.01.01.03 Describe charge and ionic compounds in the context of electrochemical theories.
 - 4.01.01.04 Recognize that the atomic model is only a model and, like any model, is subject to change.
 - 4.01.01.05 State an atomic theory which includes atomic structure, components and their properties, interactions (electron/nuclear) and theory models.
 - 4.01.01.06 Demonstrate knowledge of chemical symbolism which will include symbols, formulas, and equations.
- *4.01.02.00 Perform investigations that require observations over varying periods of time concerning the interrelationship of matter and energy.
 - 4.01.02.01 State a scheme of matter which includes elements, compounds, and mixtures.
 - 4.01.02.02 Relate a chemical equation to the concept of chemical change.
 - 4.01.02.03 Classify matter according to properties and composition.
 - 4.01.02.04 Predict the properties of matter based on data provided in pictures, drawings, charts, graphs, tables, mathematical expressions, and scientific literature.
 - 4.01.02.05 Describe the conservation laws and correctly use the standard units for these laws in relation to conservation of mass/energy and conservation of charge.
 - 4.01.02.06 Describe properties of carbon and organic molecules.

- 4.01.02.07 State the laws of chemical combinations (conservation of mass, definite composition, multiple proportions).
- 4.01.02.08 List assumptions of the kinetic theory of matter.
- 4.01.02.09 Understand chemical changes during combustion, and the relationship between these changes and the carbon cycle, and relationship to the greenhouse effect.
- 4.01.02.10 Manipulate data in problem solving, including: mole problems, concentration problems, gas law problems, atomic/molecular structure problems and equation balancing.
- 4.01.02.11 Discuss the concept of mole.
- 4.01.02.12 State the properties of gases and the laws that apply to gases.
- 4.01.02.13 Identify applications of Avogadro's hypothesis such as Avogadro's number, molar volume, and gram molecular weight/molar mass.
- 4.01.02.14 Use the kinetic molecular theory to explain states of matter, rates of reaction, and chemical equilibrium.
- 4.01.02.15 Describe Stoichiometric relationships

Biology/Ecology

- *4.02.01.00 Using models and explorations, examine cellular components and their relationships.
 - 4.02.01.01 Describe the cell theory; structure and function.
 - 4.02.01.02 Describe the role of nucleic acids in cell functions and heredity.
 - 4.02.01.03 Describe the events of mitosis and meiosis.
 - 4.02.01.04 State Mendel's laws of heredity.
 - 4.02.01.05 List causes and effects of gene mutations and chromosomal aberrations.
 - 4.02.01.06 Describe current advances in genetic engineering and possible applications in agriculture and medicine.

- *4.02.02.00 Recognizing and contrasting biological characteristics, derive a scheme to classify living organisms.
 - 4.02.02.01 List characteristics of living organisms.
 - 4.02.02.02 Classify common organisms by observable characteristics.
 - 4.02.02.03 Describe how living organisms are classified.
 - 4.02.02.04 List characteristics of organisms in each kingdom.
 - 4.02.02.05 Explain the difference between viruses and bacteria.
- *4.02.03.00 Formulate an understanding of the relationship about organisms, their physical surroundings and their change processes.
 - 4.02.03.01 Describe the interrelationship of an organism with its environment, including: pollution, populations, community, conservation, habitat, and ecosystem.
 - 4.02.03.02 Define natural selection and list evidence for its existence.
 - 4.02.03.03 Discuss the development of Darwin's theory of evolution.
 - 4.02.03.04 Discuss hypotheses of the origin of life.
 - 4.02.03.05 Identify ways to take responsibility for living in a global environment
 - 4.02.03.06 Explain and present examples of the importance of water to sustain life in terms of available water sources, water quality, and uses and quantification.
 - 4.02.03.07 Explain interrelationship of wastewater collection, treatment, and public health in terms of organic and inorganic pollutant concentrations and pathogenic organisms.
 - 4.02.03.08 Describe how human activities interfere with biological diversity.
- *4.02.04.00 Using an understanding of life processes, formulate explanations of the influences and the effects of other organisms on the living condition.
 - 4.02.04.01 Explain the relationship between microorganisms and disease .

- 4.02.04.02 Describe the following life processes: digestion, transpiration, respiration, circulation, reproduction, locomotion, excretion, sensory, regulation by endocrine glands, metabolism, and photosynthesis
- 4.02.04.03 Distinguish between myths and realities of the HIV virus and AIDS.
- 4.02.04.04 Explain the relationship between anatomical structure and function.
- 4.02.04.05 Identify structures in human physiology

Physics

- *4.03.01.00 Analyze changes within a system when inputs, outputs, and interactions are altered to explain the behavior of charges.
 - 4.03.01.01 Describe electrical energy, including the interaction of matter and energy and energy transformation.
 - 4.03.01.02 Describe the properties of magnetic fields, electrical fields, and electrical charges.
 - 4.03.01.03 Identify and describe basic electrical systems components and theories.
- *4.03.02.00 Using measuring and mathematical techniques, apply the laws of motion and conservation to real physical systems.
 - 4.03.02.01 Describe energy transfers and transformations of a system utilizing conservation laws.
 - 4.03.02.02 Describe motion in the context of Newton's Law: linear and rotational.
 - 4.03.02.03 Define work and energy and relate these concepts to kinetic energy, potential energy, and conservation of energy.
 - 4.03.02.04 Define temperature and heat in units commonly used for each.
 - 4.03.02.05 Identify the causes and effects of motion.
 - 4.03.02.06 Use vector analysis (mathematical and graphical) to represent and solve force system problems.

- *4.03.03.00 Analyze the heat energy changes within a system as related to the laws of thermodynamics.
 - 4.03.03.01 State first and second laws of thermodynamics.
 - 4.03.03.02 Define specific heat capacity and latent heat.
 - 4.03.03.03 Discuss the concept of entropy.
- *4.03.04.00 Using the knowledge gained through experimentation of the characteristics of waves, predict how waves will behave as they interact with each other and various materials.
 - 4.03.04.01 Describe sound systems, including the interaction of matter and energy and energy transformation.
 - 4.03.04.02 Identify the general areas of the electromagnetic spectrum.
 - 4.03.04.03 Describe reflection and refraction as applied to mirrors and optical instruments (lenses).
 - 4.03.04.04 Describe the particle and wave theories of light.

Laboratory Safety Procedures

- *4.04.01.00 Identify and be able to manipulate lab apparatus and materials safely.
- *4.04.02.00 Demonstrate familiarity with lab safety equipment (e.g., eyewash, fire blanket & extinguisher, shower, etc.).

Scientific Process

- *4.05.01.00 Using sound experimental designs, formulate hypotheses and models that account for observable events.
 - 4.05.01.01 Describe the role of observation and experimentation in the development of scientific theories.
 - 4.05.01.02 Describe the importance of the use of models in scientific thought.
 - 4.05.01.03 Recognize that scientific models are only representations of phenomena and may in fact be faulty or deficient.
 - 4.05.01.04 Investigate some of the ethical dilemmas of the scientist.

- 4.05.01.05 Identify and define a scientific problem.
- 4.05.01.06 Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions through familiarity with laboratory and field work.
- 4.05.01.07 Identify problems rooted in science and technology (effects of hazardous materials on health and safety, effects of drugs on health, troubleshooting problems on a machine).
- *4.05.02.00 Use sound experimental designs and models to test hypotheses.
 - 4.05.02.01 Distinguish among fact, hypothesis, and opinion; the relevant from the irrelevant; and the model from the observations the model was derived to describe.
 - 4.05.02.02 Check the logical consistency of hypothesis with relevant laws, facts, observations, or experiments.
 - 4.05.02.03 Read scientific materials critically.
 - 4.05.02.04 Gather scientific information through library work.
 - 4.05.02.05 Investigate areas of specialization in science.
 - 4.05.02.06 Apply basic scientific/technical solutions to selected problems.
 - 4.05.02.07 Employ scientific laws and principles in familiar or unfamiliar situations.
 - 4.05.02.08 Make predictions from data using concepts, laws, and theories.
 - 4.05.02.09 Use facts, concepts, laws, and theories to explain phenomena.
 - 4.05.02.10 Predict the effects of changing variables in a given situation.
 - 4.05.02.11 Suggest or recognize a scientific hypothesis.
 - 4.05.02.12 Construct a hypothetical model.
 - 4.05.02.13 Make direct measurements using laboratory apparatus.
 - 4.05.02.14 Design, conduct, and evaluate an experiment.
 - 4.05.02.15 Use sampling techniques.

- 4.05.02.16 Propose or select validating procedures (both logical and empirical).
- 4.05.02.17 Analyze experimental designs.
- 4.05.02.18 Demonstrate concern for issues related to measurement (e.g., reliability and validity).
- *4.05.03.00 Using observations derived from experimental data, draw conclusions or make inferences.
 - 4.05.03.01 Interpret data; i.e., comprehend the meaning of data and recognize, formulate, and evaluate conclusions and generalizations on the basis of information known or given.
 - 4.05.03.02 Interpret information presented in pictures, drawings, charts, graphs, mathematical expressions, and scientific literature.
 - 4.05.03.03 Reason quantitatively and symbolically.
 - 4.05.03.04 Interpret observations of experiments and analyze these to determine patterns, state inferences, and/or draw conclusions.
 - 4.05.03.05 Interpret experimental observations using facts, concepts, laws, and theories.
- *4.05.04.00 Organize and communicate the results obtained by observation and experimentation.
 - 4.05.04.01 Sequence events according to the order of occurrence.
 - 4.05.04.02 Describe ways scientists communicate their results.
 - 4.05.04.03 Demonstrate the ability to summarize empirical findings clearly and concisely in written form.

SOCIAL/CULTURAL LITERACY

Growth of Social Political, and Economic Institutions

- *5.01.01.00 Describe the role of individuals within their political system, process of voter registration, the election process and responsibility and privileges of citizenship and how law protects individuals.
- *5.01.02.00 Explain reasons for European settlement in the New World, the development of divergent political ideology and development of a new nation.
- *5.01.03.00 Examine important historical documents in context with the American experience including socio-political and ideological influences that shaped their design. (NW Ordinance, Declaration of Independence, Bill of Rights, and Constitution)
 - 5.01.03.01 Explain the purpose and contents of the Bill of Rights.
 - 5.01.03.02 Demonstrate an understanding of federalism (local, state, national).
 - 5.01.03.03 Identify the main function of each branch (legislative, executive, judicial) at different levels.
 - 5.01.03.04 Describe the process for making, amending or removing laws.
 - 5.01.03.05 Identify representative symbols: flag, national anthem, Pledge of Allegiance, Independence Day, etc.
- *5.01.04.00 Describe the political process.
 - 5.01.04.01 Understand the role of political parties in a democracy.
 - 5.01.04.02 Understand the role of public officials and how policy is carried out.
 - 5.01.04.03 Describe strengths and weaknesses of the American System.
 - 5.01.04.04 Describe how resources are gathered to support the process and policies.
- *5.01.05.00 Compare and contrast political systems.
 - 5.01.05.01 Distinguish characteristics and essential features of representative democracy, monarchy, and dictatorships.

- 5.01.05.02 Identify international governing bodies (e.g., United Nations, League of Nations, World Bank, European Economic Community, Organization of American States, etc.) and their impact.
- *5.01.06.00 Compare the culture, customs, and traditions of different ethnic and minority groups in America.
 - 5.01.06.01 Be aware of the diverse social, psychological, political, and economic factors which influence lifestyles.
 - 5.01.06.02 Evaluate methods and procedures applied by individuals, groups and social agencies to overcome social and economic barriers.
 - 5.01.06.03 Determine the role of, and conflict between, American values such as order, freedom, equality and individualism as they operate in the American Political System.
 - 5.01.06.04 Assess the impact of social class and social structure on economic development in specific countries in the First World and in the Third World.
- *5.01.07.00 Know that individuals and societies make choices to satisfy wants with limited resources.
 - 5.01.07.01 Develop an understanding of economic systems.
 - 5.01.07.02 Develop an understanding of the structure and functions of the American economy.
 - 5.01.07.03 Recognize the uneven distribution of world resources.
 - 5.01.07.04 Describe the role of technological growth in economic development and the impact of technology on the physical and human environment.

Human Diversity and Historical/Current Issues

- *5.02.01.00 Describe the causes and effects of selected wars.
- *5.02.02.00 Describe the diversity of populations encompassing the Civil Rights movement, racism, ethnocentrism, and minority group movements.
 - 5.02.02.01 Recognize diversity among significant individuals
 - 5.02.02.02 Recognize diversity among significant organizations

- 5.02.02.03 Recognize diversity surrounding immigration
- 5.02.02.04 Recognize diverse ethnic and minority groups
- 5.02.02.05 Recognize major world religions
- 5.02.02.06 Describe the relationship between diversity and historical development and contributions
- *5.02.03.00 Describe how an individual interacts with the various societal, economic, and political systems.
- 5.02.03.01 Be aware of the diverse social, psychological, political and economic factors which influence lifestyles.
- 5.02.03.02 Recognize individuals and societal practices which result in exceptional treatment of people from various backgrounds.
- 5.02.03.03 Identify and define the basic concepts of community and community development, and the role of individuals within their political systems and opportunities for civic involvement.
- 5.02.03.04 Describe and discuss contemporary domestic and international political issues and events, and evaluate the way they impact on self and society.
- 5.02.03.05 Identify and discuss career opportunities.

Analyzing Information

- *5.03.01.00 Differentiate between primary and secondary sources of information.
- *5.03.02.00 Illustrate that information can be influenced by cultural bias or propaganda.
- *5.03.03.00 Analyze and explain social, cultural and political problems and suggest remedies to those problems.
- *5.03.04.00 Compare and contrast culture, customs and traditions of ethnic and minority groups.
- *5.03.05.00 Analyze social forces that influence family life.
- *5.03.06.00 Demonstrate the ability to use information that enables citizens to make informed choices.

- *5.03.07.00 Communicate and cooperate with people of different cultural backgrounds.
- *5.03.08.00 Collect and analyze information from charts, graphs, maps, and pictures.
- *5.03.09.00 Identify and explain how world problems and future trends will impact his or her life.
- *5.03.10.00 Describe and discuss world patterns of population, geographic landforms, climate regions, and economic activities.
- *5.03.11.00 Identify opportunities for involvement in civic activities.

TECHNOLOGY LITERACY

Impact of Technology

- *6.01.01.00 Develop an awareness of the need and function of technology in society:
 - 6.01.01.01 Explore cause and effect linkages between technology and the environment.
 - 6.01.01.02 Explain how technological change can affect all technology.
 - 6.01.01.03 Evaluate the impact of technology on people, the environment, culture, the economy, and community.
 - 6.01.01.04 Explain how business and industry are related to the larger context of technology, industry, and society.
 - 6.01.01.05 Describe the way in which technological systems have affected social changes and patterns in our society.
 - 6.01.01.06 Explore how people use technology to solve problems.
- *6.01.02.00 Develop an awareness of the significance of technology in the past, present, and future.
- *6.01.03.00 Explain the interrelationships between business, industry, and society:
 - 6.01.03.01 Evaluate the impact of infrastructure deterioration on people, the environment, and the economy.
- *6.01.04.00 Analyze the role of ethics in technological decision making:
 - 6.01.04.01 Research the social effects of technology and identify ethical implications that develop.
 - 6.01.04.02 Recognize that all technological endeavors yield positive and negative side effects.
 - 6.01.04.03 Describe the impact of government on the use of technology.
 - 6.01.04.04 Describe copyright laws and issues as they apply to software.
 - 6.01.04.05 Describe security/privacy issues related to the use of computers.

*6.01.05.00 Explain the interrelationship between business, industry, and community.

Technology in the Workplace

*6.02.01.00 Describe the importance of product quality control.

6.02.01.01 Participate in project-oriented quality control exercises.

*6.02.02.00 Describe the importance of the quality control process.

6.02.02.01 Explain how improved quality leads to improved productivity, competitive position, and profitability.

6.02.02.02 Define the principles of team management.

6.02.02.03 Describe the importance of statistical process control.

6.02.02.04 Plan team meetings.

6.02.02.05 Cite examples of companies that have benefitted from quality efforts.

*6.02.03.00 Solve problems utilizing a systems approach.

6.02.03.01 Apply brainstorming as a method for generating ideas.

6.02.03.02 Apply cause and effect analysis.

6.02.03.03 Evaluate results and make modification to improve a solution.

6.02.03.04 Compile and analyze experimental or design data.

6.02.03.05 Seek new knowledge, synthesize this information, and formulate it into a report or use it in solving a defined problem.

6.02.03.06 Use a research and development process common to industry to solve problems (integrating a variety of productivity analysis skills).

6.02.03.07 Learn how to reach a group consensus.

6.02.03.08 Distinguish between open and closed loop systems.

- *6.02.04.00 Define productivity and its relationship to management concepts.
 - 6.02.04.01 Develop an action plan that will be taken for performance improvement. It details what, when, and by whom, action.
 - 6.02.04.02 Demonstrate the ability to flow charts, check sheets, etc. apply management and planning tools such as cause and effect diagrams, control charts,
 - 6.02.04.03 Describe and use the Plan-Do-Check-Act process.
 - 6.02.04.04 Describe input, process, or output systems.
- *6.02.05.00 Given an industry or a company, identify "customers."
- *6.02.06.00 Develop the ability to function as a member of small or large groups.
 - 6.02.06.01 Learn how to reach a group consensus.
 - 6.02.06.02 Participate in at least one hypothetical enterprise. decision-making responsibility role of a
 - 6.02.06.03 Demonstrate effective negotiation skills.
 - 6.02.06.04 Demonstrate effective delegation skills.
 - 6.02.06.05 Describe the purpose of unions.
- *6.02.07.00 Describe the free enterprise system.
 - 6.02.07.01 Describe a simplified version of a patent application process to ensure protection of ideas and control of disclosure.

Technological Tools and Techniques

- *6.03.01.00 Describe basic computer operations.
- *6.03.02.00 Operate computer hardware
 - 6.03.02.01 Demonstrate keyboarding proficiency.
 - 6.03.02.02 Demonstrate the ability to utilize various peripherals.
 - 6.03.02.03 Access information networks of a variety of types.

- 6.03.02.04 Identify and describe the function of the major hardware components comprising a personal computer.
- *6.03.03.00 Utilize a variety of software.
 - 6.03.03.01 Prepare reports, resumes, or memoranda using a word processing package.
 - 6.03.03.02 Describe what a database is and what it is used for.
 - 6.03.03.03 Demonstrate general knowledge of CAD and CAM technologies.
 - 6.03.03.04 Describe the major types and applications of software.
 - 6.03.03.05 Determine the availability of resources through information networks.
 - 6.03.03.06 Operate desktop publishing systems.
 - 6.03.03.07 Access external computers using a modem.
 - 6.03.03.08 Utilize information management systems.
 - 6.03.03.09 Utilize a spreadsheet package.
 - 6.03.03.10 Apply basic commands to format disks, copy files, create directories, delete files, change default drives, and access software packages for a variety of computer systems.
- *6.03.04.00 Use basic technological language accurately across a variety of technologies.
 - 6.03.04.01 Demonstrate familiarity with different types of language forms used in various technologies, i.e., graphic, symbolic, and verbal.
 - 6.03.04.02 Recognize that different technologies use jargon specific to those technologies.
 - 6.03.04.03 Describe the resources necessary for technology resource people: i.e., information, materials, tools/machines, capital, energy, and time.
- *6.03.05.00 Visualize and describe two- and three-dimensional space.
 - 6.03.05.01 Demonstrate familiarity with the basic types of engineering drawings.

- 6.03.05.02 Illustrate and/or describe 3-D objects from different points of view (front, back, side, etc.)
- 6.03.05.03 Develop a three-dimensional mental and physical representation of an object from a two-dimensional drawing.
- 6.03.05.04 Visualize and present product ideas
- *6.03.06.00 Utilize two- and three-dimensional drawings.
 - 6.03.06.01 Represent a three-dimensional object in a two-dimensional drawing.
 - 6.03.06.02 Refine and communicate project ideas.
- *6.03.07.00 Create a three-dimensional drawing.
- *6.03.08.00 Develop responsible attitudes toward safety around technology.
 - 6.03.08.01 Demonstrate the safe and correct handling of hazardous materials and processes.
 - 6.03.08.02 Demonstrate proper use of common hand and power tools.
- *6.03.09.00 Use measuring devices.
 - 6.03.09.01 Perform linear measuring procedures.
 - 6.03.09.02 Perform volume measuring procedures.
 - 6.03.09.03 Demonstrate the accurate use of architectural and engineering scales.
 - 6.03.09.04 Perform temperature measuring procedures.
- *6.03.10.00 Demonstrate factors affecting the selection and use of material resources.
 - 6.03.10.01 Explore the utilization of tools and materials in engineering applications.
 - 6.03.10.02 Describe the major properties of materials.
 - 6.03.10.03 Safely perform some common secondary materials processing activities (e.g., drilling, milling, turning, and grinding).

*6.03.11.00 Choose appropriate resources.

6.03.11.01 Perform selected tests to determine materials properties and appropriateness for various uses.

*6.03.12.00 Use multimedia equipment.

6.03.12.01 Create multimedia presentations.

*6.03.13.00 Demonstrate an understanding of the roles and importance of electronics in contemporary technology

6.03.13.01 Describe what is meant by electronics technology.

6.03.13.02 List where electronics technology is used.

6.03.13.03 Describe why electronics technology is used.

HEART of OHIO TECH PREP CONSORTIUM
1996

Multi-Competency Health Technologies Model

PART III:
Tech Prep Secondary Competencies (Leveled)

HEART OF OHIO
MULTI-COMPETENCY HEALTH
TECHNOLOGIES

Eastland Vocational School's Allied Health

ACADEMIC AND TECHNICAL
LEVELED COMPETENCIES

June 1996

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ACADEMIC COMPETENCIES:

Academic Expectations: All students will be enrolled in the following course sequence:

JUNIOR YEAR	Communications (Eng 100) (competencies target preparing students to place into English 111) Analytical Algebra III (Math 103 and 104) Social Studies (American Culture/Government) Biology (competencies identified for Bio 101 - Anatomy & Physiology) - Students are also expected to demonstrate competencies identified for Bio 100 before completing this program Sign Language - OPTIONAL
SENIOR YEAR	Communications (competencies target preparing students to place into English 111) Analytical Algebra IV (Math 104) (competency based course work preparing students to place into Math 148) Social Studies (World Culture/Global Problems) Chemistry (competencies identified for Chem 100) Sign Language - OPTIONAL

COMMUNICATIONS LITERACY

Effective Reading Skills	1
Effective Speaking and Presentation Skills	2
Effective Writing Skills	4
Effective Listening Skills	5
Critical Viewing/Graphic/Observation Skills	5

MATHEMATICS

Algebra	6
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Numbers and Number Relations	12
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Core competencies will be required of all students.

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Quality Assurance	65
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Assessment:	75
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ELECTIVES

All students will select three (3) areas of concentration plus one (1) quarter of independent study with a career focus; participate in a mentorship/internship at a worksite; or enroll in related post-secondary technical coursework.

Diagnostic Procedures	99
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KEY TO LEVELING:

- 10 - by end of grade 10
- 12 - by end of grade 12
- AD - by end of the Associate Degree
- BD - by end of Bachelor Degree
- LL - lifelong learning necessary due to technological change
- WS - on-job-training that occurs at an actual worksite
- I - introduce
- R - reinforce or add depth (after introducing or mastery)
- M - master

COMMUNICATIONS LITERACY

(Eng 100)

Effective Reading Skills

- | | |
|------------|---|
| 1.01.01.00 | Differentiate between fact, opinion, and inference
I-11, R-11, M-12 |
| 1.01.03.00 | Recognize the intent and use of propaganda
I-11, R-12 |
| 1.01.04.00 | Identify and summarize ideas, information, and events that are
explicitly stated in written material
I-11, R-11, M-12 |
| 1.01.05.00 | Explain the sequence of time, places, events, and ideas
R-11, M-11 |
| 1.01.06.00 | Identify and explain the main and subordinate ideas (stated or
implied) in a written work
I-11, R-12 |
| 1.01.06.01 | Differentiate between details that support or do not support main
ideas in a written work |
| 1.01.08.00 | Find, understand, and apply information from a variety of sources
(books, manuals, newspapers, periodicals, directories, reference works,
computer printouts, and electronic sources)
I-11, R-12, LL |
| 1.01.09.00 | Use the features of books and reference materials, such as table of
contents, preface, introduction, titles and subtitles, index, glossary,
appendix, and bibliography
R-11, M-11 |
| 1.01.10.00 | Define and use unfamiliar words and specialized vocabulary (including
abbreviations, acronyms, concepts, and jargon) by using structural
analysis, decoding, contextual cues, dictionaries, and computers
I-11, R-11, LL |
| 1.01.11.00 | Read and understand short notes, memos, letters, and forms
R-11, M-12 |
| 1.01.12.00 | Read and follow complex directions
R-11/12 |

Communications

- 1.01.13.00 Determine the author's purpose
I-11, R-12
- 1.01.14.00 Read, evaluate, and respond critically to various literature forms, genres, and printed medias
I-11, R-12
- 1.01.15.00 Recognize and interpret organizational patterns of writing (e.g., cause and effect, comparison and contrast, and simple listing)
I-11, R-12, M-12
- 1.01.16.00 Identify the structural elements of literature (e.g., plot, theme, character, mood, setting, and point of view)
I-11, R-12, M-12
- 1.01.17.00 Identify literary devices (e.g., metaphor, foreshadowing, flashback, allusion, satire, and irony)
I-11, R-12, M-12
- 1.01.19.00 Take accurate notes from written sources
I-11, R-11/12, M-12
- 1.01.20.00 Recognize, analyze, and discuss the rhetorical strategies and writing techniques used in various student and professional writings
I-11, R-12
- 1.01.21.00 Summarize or paraphrase a written selection to confirm one's own understanding of what was read
I-11, R-11/12, M-12
- 1.01.22.00 Understand and use appropriate techniques for taking different types of tests
I-11, R-11/12, M-12

Effective Speaking and Presentation Skills

- 1.02.01.00 Give oral directions and clear explanations
I-11, R-12
- 1.02.02.00 Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with individuals
R-11, R-12

Communications

- 1.02.03.00** **Demonstrate correct usage of vocabulary**
R-11, R-12
- 1.02.05.00** **Speak effectively using non-verbal communication such as eye contact, posture, and gestures**
I-11, R-11/12, M-12
- 1.02.06.00** **Select topics suitable to audience, situation, and purpose**
I-11, R-11/12, M-12
- 1.02.08.00** **Give formal and informal talks and speeches**
I-11, R-11/12
- 1.02.08.01** **Explain and demonstrate the basic elements of public speaking**
- 1.02.08.02** **Present speeches using an extemporaneous delivery style, with minimal use of note cards or text, maximum eye contact, appropriate voice intonations and body language, and minimal verbal mannerisms**
- 1.02.09.00** **Demonstrate the differences between informing and persuading and use the appropriate techniques of content and delivery for each purpose**
I-11, R-12
- 1.02.09.01** **Present an informative speech by limiting the scope of the topic and selecting a workable pattern of organization with an effective beginning and ending**
- 1.02.09.02** **Present a persuasive speech that will demonstrate the student's awareness of and sensitivity to the audience through the use of appropriate language and audience data**
- 1.02.10.00** **Use visual media**
I-11, R-11/12
- 1.02.11.00** **Demonstrate proper telephone etiquette**
I-11, R-11/12, M-12

Effective Writing Skills

- 1.03.01.00** **Demonstrate ability to use different forms of writing (e.g., literary response, business and technical communicative modes, personal responses, journals, research and recording)**
I-11, R-11/12, M-12
- 1.03.01.01** **Demonstrate understanding of good letter writing principles**
- 1.03.02.00** **Demonstrate appropriate selection of mode, purpose, audience, point of view, and organization of information in written assignments**
I-11/12, R-11/12
- 1.03.02.01** **Produce a completed narrative essay**
- 1.03.02.02** **Produce a completed descriptive/observational essay**
- 1.03.02.03** **Produce a completed informational paper**
- 1.03.02.04** **Produce a completed persuasive essay**
- 1.03.03.00** **Demonstrate proficiency in word processing, graphics, and/or desktop publishing aids for writing**
I-11, R-11/12, LL
- 1.03.04.00** **Apply writing process techniques: 1) Prewriting 2) Drafting 3) Revising 4) Editing/proofreading 5) Publishing**
I-11, R-11/12, M-12
- 1.03.04.01** **Use journal writing as a pre-writing and learning tool**
- 1.03.04.02** **Revise and accurately edit both their own and other's written work**
- 1.03.07.00** **Create written summaries of information**
I-11, R-11/12, M-12
- 1.03.08.00** **Use appropriate techniques for documentation of sources**
I-11, R-11/12, M-12

Communications

Effective Listening Skills

- 1.04.01.00** Follow spoken directions
I-11, R-11/12
- 1.04.02.00** Distinguish between fact and opinion
I-11, R-11/12, M-12
- 1.04.03.00** Make inferences and draw conclusions from verbal and non-verbal messages
I-11, R-11/12
- 1.04.04.00** Identify and comprehend the main and subordinate ideas in lecture and discussions; questions to clarify information heard; and report accurately what others have said
I-11, R-11/12
- 1.04.05.00** Restate or paraphrase a conversation to confirm one's own understanding of what was said
I-11, R-11/12, M-12
- 1.04.06.00** Take accurate notes which summarize material presented from spoken conversations, including telephone messages
I-11, R-11/12, M-12
- 1.04.08.00** Critique speeches and other verbal presentations
I-11, R-11/12

Critical Viewing/Graphic/Observation Skills

- 1.05.01.00** Read and understand graphs, charts, and tables to obtain factual information
I-11, R-11/12, M-12
- 1.05.02.00** Produce and utilize effective communication skills in the development of graphs, tables, and charts to communicate ideas
I-11, R-11/12, M-12
- 1.05.03.00** Critically view historical or contemporary events, via TV or video tape, and make appropriate observations
I-11, R-11/12
- 1.05.05.00** Communicate through use of video tape and computer presentations
I-12

MATHEMATICS

(Math 104)

Algebra

- 3.01.01.00 Solve linear equations
I-10, R-11/12, M-11
- 3.01.01.01 Combine like terms
- 3.01.01.02 Use the Distributive Property to remove grouping symbols and the
Addition/Subtraction property to combine like terms to simplify
expressions
- 3.01.01.03 Solve equations in one variable utilizing one operation
- 3.01.01.04 Solve equations in one variable utilizing two or more operations
- 3.01.01.05 Describe and use the properties of equivalence in working with equations,
inequalities, and functions
- 3.01.01.06 Identify variables, constants, terms, expressions, and coefficients
- 3.01.01.07 Define absolute value
- 3.01.01.08 Evaluate algebraic expressions
- 3.01.01.09 Solve the literal equation or formula for a specified variable
- 3.01.01.10 Recognize the properties of equalities
- 3.01.01.11 Solve a 2x2 system of linear equations by elimination
- 3.01.01.12 Solve a 2x2 system of linear equations by substitution
- 3.01.01.13 Apply the rules for solving linear equations in one variable
- 3.01.01.14 Use formulas
- 3.01.01.15 Use handheld graphic calculators to solve linear equations and graph
simple functions
- 3.01.01.16 Solve linear equation in one variable containing an absolute value
symbol

Mathematics

3.01.02.00

Use properties of exponents
I-11, R-12, M-12

3.01.02.01

Define exponent

3.01.02.02

Compare and compute using scientific notation

3.01.02.03

Determine values for the square root of any natural number

3.01.02.04

Determine the principal square root and recognize square roots of negatives as being non-real

3.01.02.05

Divide terms having factors with exponents

3.01.02.06

Multiply and divide polynomial expressions

3.01.02.07

Operate with radicals and leave the result in simplified form

3.01.02.08

Apply the properties of exponents to simplify polynomial expressions

3.01.02.09

Multiply terms having factors with exponents

3.01.02.10

Solve radical equations

3.01.03.00

Factor a polynomial of two or more terms
I-10, R-11/12, M-11

3.01.03.01

Apply the distributive law in removing common factors

3.01.03.02

Factor difference of two squares

3.01.03.03

Factor quadratic trinomials

3.01.04.00

Solve linear inequalities and show the solution on a number line
I-11, M-11, R-12

3.01.04.01

Combine like terms

3.01.04.02

Use the Substitution Property to evaluate expressions and formulas

3.01.04.03

Evaluate algebraic expressions

3.01.04.04

Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions

Mathematics

- 3.01.04.05 Identify variables, constants, terms, expressions, and coefficients
- 3.01.04.06 Solve equations in one variable utilizing two or more operations
- 3.01.04.07 Describe and use the logic of equivalence in working with equations, inequalities, and functions
- 3.01.04.08 Solve a linear inequality in one variable using two or more operations
- 3.01.04.09 Define absolute value
- 3.01.04.10 Solve problems involving statements of inequality
- 3.01.04.11 Use interval notation to describe inequalities on a number line
- 3.01.04.12 Define and describe the union and intersection of intervals
- 3.01.04.13 Graph inequalities in two variables
- 3.01.05.00 Recognize, relate, and use the equivalent ideas of zeros of a function, roots of an equation, and solutions of an equation in terms of graphical and symbolic representations
I-11, R-12, M-12
- 3.01.05.01 Apply the distributive law in removing common factors
- 3.01.05.02 Factor the difference of two squares
- 3.01.05.03 Factor quadratic trinomials
- 3.01.05.04 Combine like terms
- 3.01.05.05 Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions
- 3.01.05.06 Solve equation in one variable utilizing one operation
- 3.01.05.07 Solve equations in one variable utilizing two or more operations
- 3.01.05.08 Describe and use the logic of equivalence in working with equations, inequalities, and functions
- 3.01.05.09 Identify variables, constants, terms, expressions, and coefficients

Mathematics

- 3.01.05.10 Explore and describe characterizing features of functions
- 3.01.05.11 Find X and Y intercepts of a line
- 3.01.05.12 Decide whether or not a relation is a function. Use function notation. Find domains and ranges
- 3.01.05.13 Use set notation to describe and discuss domain and range of a function
- 3.01.05.14 Factor perfect square trinomials
- 3.01.06.00 Graph equations**
I-10, R-11/12, M-12
- 3.01.06.01 Develop graphical techniques of solution for problem situations involving functions
- 3.01.06.02 Explore and describe characterizing features of functions
- 3.01.06.03 Describe problem situations by using and relating numerical, symbolic, and graphical representations
- 3.01.06.04 Use the language and notation of functions in symbolic and graphing settings
- 3.01.06.05 Find X and Y intercepts of a line
- 3.01.06.06 Write equations for a line
- 3.01.06.07 Use a graphing calculator or computer to generate the graph of a function
- 3.01.06.08 Graph a linear equation using the slope-intercept method
- 3.01.06.09 Translate among tables, algebraic expressions, and graphs of functions
- 3.01.06.10 Estimate shape of graphs of various functions and algebraic expressions
- 3.01.06.11 Use handheld graphic calculators to solve linear equations and graph simple functions
- 3.01.06.12 Graph basic functions using the Cartesian coordinate system

Mathematics

- 3.01.06.13 Derive the equation of a line given two points of the line, one point and the slope, or slope and Y intercept
- 3.01.07.00 **Demonstrate the ability to translate statements and equations from written to algebraic form and algebraic to written form**
I-10,, R-11/12, M-11
- 3.01.08.00 **Determine slope, midpoint, and distance**
I-11, M-11, R-12
- 3.01.08.01 Solve problems related to sets of points on a Cartesian coordinate system
- 3.01.08.02 Calculate the slope of a line using the coordinates of two points of the line or a graph of the line
- 3.01.09.00 **Model real-world phenomena with polynomial and exponential functions**
I-12, M-12
- 3.01.09.01 Use curve fitting to predict from data
- 3.01.09.02 Graph exponential functions which model real world statistics (e.g., population growth, radioactive decay)

Geometry

- 3.02.01.00 **Find perimeters, surface areas and volumes of geometric figures**
I-10, R-11, M-11
- 3.02.01.01 Recognize and classify two-and three-dimensional figures (e.g., circles, triangles, rectangles, cylinders, prism)
- 3.02.01.02 Create and interpret drawings of three-dimensional objects
- 3.02.01.03 Classify, label, and describe polygons and solids
- 3.02.01.05 Use handheld graphic calculators to solve area and volume problems
- 3.02.01.06 Given the dimensions of various geometric shapes common to the technological industries, determine areas and volumes in English and metric units

Mathematics

- 3.02.01.07 Estimate the area of irregular plane figures
- 3.02.01.09 Convert between radians and degrees
- 3.02.03.00 Recognize, classify, and use properties of lines and angles**
I-10, R-11/12, M-11
- 3.02.03.01 Demonstrate an understanding of angles and parallel and perpendicular lines
- 3.02.03.02 Define terms related to angles
- 3.02.03.04 Demonstrate an understanding of special angles
- 3.02.03.05 Understand the various units of measure of angles
- 3.02.03.06 Identify points, lines, and planes
- 3.02.03.07 Use the concept of betweenness
- 3.02.03.08 Measure angles correctly
- 3.02.03.09 Convert between radians and degrees
- 3.02.04.00 Describe and apply the properties of similar and/or congruent figures**
I-11, M-11, R-12
- 3.02.04.01 Be able to make scale drawings
- 3.02.05.00 Solve right triangle problems**
I-11, R-12, M-12
- 3.02.05.01 Apply the Pythagorean Theorem
- 3.02.05.02 Identify basic functions of sine, cosine and tangent
- 3.02.05.03 Compute and solve problems using basic trigonometric functions
- 3.02.06.00 Demonstrate inductive and deductive reasoning through application to various subject areas**
I-10, R-11/12, LL
- 3.02.06.01 Demonstrate an understanding of and ability to use proof

Mathematics

Numbers and Number Relations

- 3.03.01.00** **Estimate answers, compute, and solve problems involving real numbers**
M-10, R-11/12
- 3.03.01.01 Round off decimals to one or more places
- 3.03.01.02 Round and/or truncate numbers to designated place value
- 3.03.01.03 Round off single and multiple digit whole numbers
- 3.03.01.04 Estimate measurements
- 3.03.01.05 Use mental computation when computer and calculator are inappropriate
- 3.03.01.06 Find the least common denominator of two fractions
- 3.03.02.00** **Compare and contrast the real number system, the rational number system, and the whole number system**
I-12, M-12
- 3.03.03.00** **Determine if a solution to a mathematical problem is reasonable (estimate)**
I-10, R-11/12, LL
- 3.03.04.00** **Select and compute using appropriate units of measure**
I-10, R-11/12, M-12
- 3.03.04.01 Convert, compare, and compute with common units of measurement within and/or across measurement systems
- 3.03.04.02 Use and convert between measurements in the Apothecaries' System of Measurement
- 3.03.04.03 Use the correct notations from the Apothecaries' System of Measurement

Mathematics

Data Analysis and Probability

- 3.04.01.00** **Collect and organize data into tables, charts, and graphs**
I-10, R-11/12, M-11
- 3.04.01.01 Take a random sample from a population
- 3.04.03.00** **Understand and apply measures of central tendency, variability, and correlation**
I-10, R-11/12, M-12
- 3.04.03.01 Compute and interpret means (averages)
- 3.04.03.02 Compute and interpret median and/or mode
- 3.04.03.03 Understand what a normal distribution is
- 3.04.03.04 Understand what a uniform distribution is

Technical Algebra

- 3.05.01.00** **Evaluate and graph functions using rectangular coordinates**
I-10, R-11/12, M-11
- 3.05.01.01 Graph inequalities in two variables
- 3.05.02.00** **Solve systems of linear equations and inequalities using matrices, graphs, and algebraic methods**
I-11, R-12, M-12
- 3.05.02.01 Solve systems of linear equations with up to 3 variables
- 3.05.02.02 Solve a 2x2 system of linear equations using matrices
- 3.05.03.00** **Understand the complex number system and exhibit facility with its operation**
I-12
- 3.05.03.01 Solve problems having complex solutions
- 3.05.03.02 Examine complex numbers as zeros of a function

Mathematics

- 3.05.03.08 Add, subtract, multiply and divide complex numbers in rectangular form
- 3.05.04.00 Analyze exponential functions
I-12**
- 3.05.04.02 Do calculations involving exponential expressions and functions
- 3.05.04.04 Graph exponential functions
- 3.05.04.06 Use graphing calculators to generate tables to plot exponential curves
- 3.05.05.00 Simplify and solve quadratic equations
I-11, R-12, M-12**
- 3.05.05.01 Simplify algebraic expressions, multiply and divide polynomials, and solve quadratic equations
- 3.05.05.02 Solve a quadratic equation by factoring, by completing the square, and by using the quadratic formula
- 3.05.05.03 Calculate the discriminant of a quadratic equation
- 3.05.05.04 Put a quadratic equation in standard form and identify a, b, and c
- 3.05.05.05 Draw conclusions about the solutions of a quadratic equation based upon the value of the discriminant
- 3.05.05.06 Use a handheld graphic calculator to find the real solutions of a quadratic function to within stated limits of accuracy
- 3.05.06.00 Analyze rational functions
I-11, R-12, M-12**
- 3.05.06.01 Simplify rational expressions
- 3.05.06.02 Find the least common denominator of two rational expressions
- 3.05.06.03 Add, subtract, multiply and divide rational expressions
- 3.05.06.04 Solve rational equations
- 3.05.06.05 Identify and describe domain and range of rational functions

Mathematics

- 3.05.06.06 Define asymptote
- 3.05.06.07 Identify and describe the asymptotes of a rational function and recognize their significance
- 3.05.06.08 Graph rational functions using a handheld graphic calculator
- 3.05.06.09 Use a handheld graphic calculator to find any intercepts of a rational function to within stated limits of accuracy

Technical Trigonometry

- 3.06.02.00 Recognize and identify graphs of the trigonometric functions I-12, M-12
- 3.06.02.01 Recognize and graph basic trig curves

SCIENCE LITERACY

Chemistry (Chem 100)

- 4.01.01.00** Explore atomic theory and present findings using various representational formats.
I-11, R-12, M-AD
- 4.01.01.01 Describe a mechanism of bond formation and identify the type of chemical bond formed as ionic, covalent, or metallic
- 4.01.01.02 Relate the concept of periodicity to atomic properties and the periodic table of elements
- 4.01.01.03 Describe charge and ionic compounds in the context of electrochemical theories
- 4.01.01.04 Recognize that the atomic model is only a model and, like any model, is subject to change
- 4.01.01.05 State an atomic theory which includes atomic structure, components and their properties, interactions (electron/nuclear) and theory models
- 4.01.01.06 Demonstrate knowledge of chemical symbolism which will include symbols, formulas, and equations
- 4.01.01.07 Describe characteristics of ionic compounds
- 4.01.01.08 Describe characteristics of covalent compounds
- 4.01.01.09 Use a periodic table to predict the type of bonding which should occur between elements
- 4.01.01.10 Recognize and identify chemical symbols
- 4.01.01.11 Identify atomic numbers, atomic mass and general atomic structure based upon the periodic table
- 4.01.01.12 Prepare orbital notation for elements from the periodic table
- 4.01.01.13 Identify and explain phases of matter
- 4.01.02.00** Perform investigations that require observations over varying periods of time concerning the interrelationship of matter and energy
I-11, R-12, M-AD

Science Literacy

- 4.01.02.01 State a scheme of matter which includes elements, compounds, and mixtures
- 4.01.02.02 Relate a chemical equation to the concept of chemical change
- 4.01.02.03 Classify matter according to properties and composition
- 4.01.02.04 Predict the properties of matter based on data provided in pictures, drawings, charts, graphs, tables, mathematical expressions, and scientific literature
- 4.01.02.05 Describe the conservation laws and correctly use the standard units for these laws in relation to conservation of mass/energy and conservation of charge
- 4.01.02.06 Describe properties of carbon and organic molecules
- 4.01.02.07 State the laws of chemical combinations (conservation of mass, definite composition, multiple proportions)
- 4.01.02.08 List assumptions of the kinetic theory of matter
- 4.01.02.10 Manipulate data in problem solving, including: mole problems, concentration problems, gas law problems, atomic/molecular structure problems and equation balancing
- 4.01.02.11 Discuss the concept of mole
- 4.01.02.12 State the properties of gases and the laws that apply to gases
- 4.01.02.13 Identify applications of Avogadro's hypothesis such as Avogadro's number, molar volume, and gram molecular weight/molar mass
- 4.01.02.14 Use the kinetic molecular theory to explain states of matter, rates of reaction, and chemical equilibrium
- 4.01.02.15 Manipulate stoichiometric relationships
- 4.01.02.16 Correctly write formulas and name chemical compounds
- 4.01.02.17 Properly balance basic chemical equations
- 4.01.02.18 Predict oxidation members from the periodic table and compounds

Science Literacy

- 4.01.02.19 Use electronegativity to predict reactions
- 4.01.03.00 Demonstrate basic chemistry laboratory techniques and procedures to include equipment and safety precautions
I-11, R-12, M-12**
- 4.01.03.01 Identify and use basic laboratory equipment
- 4.01.03.02 Demonstrate a basic ability to measure liquids and solids in the laboratory
- 4.01.03.03 Recognize basic safety techniques for chemistry laboratory

Biology/Anatomy/Physiology

(Bio 100, Bio 101)

- 4.02.01.00 Using models and explorations, examine cellular components and their relationships
I-11, R-11, M-11**
- 4.02.01.01 Describe the cell theory; structure and function
- 4.02.01.02 Describe the role of nucleic acids in cell functions and heredity
- 4.02.01.03 Describe the events of mitosis and meiosis
- 4.02.01.05 List causes and effects of gene mutations and chromosomal aberrations
- 4.02.01.06 Describe current advances in genetic engineering and possible applications in agriculture and medicine
- 4.02.02.00 Recognizing and contrasting biological characteristics, derive a scheme to classify living organisms
I-11, R-11, M-11**
- 4.02.02.01 List characteristics of living organisms
- 4.02.02.02 Classify common organisms by observable characteristics
- 4.02.02.03 Describe how living organisms are classified
- 4.02.02.04 List characteristics of organisms in each kingdom
- 4.02.02.05 Explain the difference between viruses and bacteria

Science Literacy

- 4.02.03.00** **Formulate and understanding of the relationship about organisms, their physical surroundings and their change processes**
i-10, R-11, M-11
- 4.02.03.01 Describe the interrelationship of an organism with its environment, including: pollution, populations, community, conservation, habitat, and ecosystem
- 4.02.03.02 Define natural selection and list evidence for its existence
- 4.02.03.03 Discuss the development of Darwin's theory of evolution
- 4.02.03.04 Discuss hypotheses of the origin of life
- 4.02.03.06 Explain and present examples of the importance of water to sustain life in terms of available water sources, water quality, and uses and quantification
- 4.02.03.07 Explain interrelationship of wastewater collection, treatment, and public health in terms of organic and inorganic pollutant concentrations and pathogenic organisms
- 4.02.03.08 Describe how human activities interfere with biological diversity
- 4.02.04.00** **Using an understanding of life processes, formulate explanations of the influences and the effects of other organisms on the living condition**
I-10, R-11, M-11
- 4.02.04.01 Explain the relationship between microorganisms and disease
- 4.02.04.02 Describe the following life processes: digestion, transpiration, respiration, circulation, reproduction, locomotion, excretion, sensory, regulation by endocrine glands, metabolism, and photosynthesis
- 4.02.04.03 Distinguish between myths and realities of the HIV virus and AIDS
- 4.02.04.04 Explain the relationship between anatomical structure and function
- 4.02.04.05 Identify structures in human physiology

Science Literacy

- 4.02.05.00 Recognizing the organization of living organisms
I-10, R-11, M-11**
- 4.02.05.01 Differentiate science from nonscience by listing characteristics of science
- 4.02.05.02 Compare the characteristics of science to beliefs, philosophy, superstition, costumes, and religion
- 4.02.05.03 Define biology
- 4.02.05.04 Discuss the scientific method
- 4.02.05.05 List the levels of organization from atom, macromolecule, cell, tissue, organ, organ system, organism, species, genus
- 4.02.06.00 Identify cellular components and their relationships
I-10, R-11, M-11**
- 4.02.06.01 Differentiate an autotroph from a heterotroph
- 4.02.06.02 Differentiate a prokaryote from a eukaryote
- 4.02.06.03 Differentiate a cell membrane from a cell wall
- 4.02.06.04 Explain the current theory of cell membrane structure-the fluid mosaic model
- 4.02.06.05 Differentiate between passive transport and active transport
- 4.02.06.06 Discuss the processes of diffusion, osmosis, active transport, facilitated diffusion, exocytosis, and endocytosis
- 4.02.06.07 Identify a specific function of the nucleus, nucleolus, mitochondria, ribosomes, endoplasmic reticulum, golgi body, lysosome, centrioles, cilia, microtubules, and vacuole
- 4.02.06.08 Identify the elements which compose the majority of living matter - C,H,N,O,P,S
- 4.02.06.09 Differentiate an atom from an ion
- 4.02.06.10 List the chemical symbols for the following compounds - water, carbon dioxide, ammonia, glycerol, fatty acid, glucose, and an amino acid

Science Literacy

- 4.02.06.11 Differentiate water soluble compounds from lipid soluble compounds and give examples
- 4.02.06.12 Define the terms monomer and polymer
- 4.02.06.13 Name the component molecules of maltose, starch, protein and triglyceride
- 4.02.06.14 List the component molecules of a nucleotide
- 4.02.06.15 Compare the advantages of unicellularity versus multicellularity
- 4.02.06.16 State that DNA is common to all living organisms on earth
- 4.02.06.17 Compare the commonality of enzymes
- 4.02.07.00 Formulate an understanding of the physical structures and chemical processes occurring within the cell
I-10, R-11, M-11**
- 4.02.07.01 Differentiate photosynthesis from chemosynthesis
- 4.02.07.02 Summarize briefly the process of photosynthesis by correlating the cell organelles involved, the starting energy, the end products of carbon fixation, and its significance
- 4.02.07.03 Define digestion
- 4.02.07.04 Differentiate aerobic from anaerobic metabolism
- 4.02.07.05 Summarize glycolysis by correlating the starting compound and end products
- 4.02.07.06 Differentiate the 2 carbon end products of anaerobic glycolysis in plants and animals
- 4.02.07.07 Summarize cell respiration by correlating starting compounds and end products of the bridge step, krebs cycle, and the electron transport systems
- 4.02.07.08 Compare the amounts of ATP formed in aerobic metabolism versus anaerobic metabolism
- 4.02.07.09 List several functions that require ATP

Science Literacy

- 4.02.07.10 Differentiate the 4 levels of organization of a protein molecule
- 4.02.07.11 Correlate the roles of proteins in cells-enzymes, structural, antibodies, receptor sites, pigments
- 4.02.07.12 Analyze the process of protein synthesis by discussing complementary base pairing, transcription, mRNA, tRNA, ribosomes, codons, anticodons, translation, and significance of errors
- 4.02.07.13 Analyze the cell cycle by discussing G1, S, G2, Mitosis, and cytokinesis
- 4.02.07.14 Discuss the process of mitosis and correlate events in each phase
- 4.02.07.15 Differentiate plant and animal cytokinesis
- 4.02.07.16 Discuss meiosis and correlate events in each phase
- 4.02.07.17 Compare and contrast the processes of human spermatogenesis and oogenesis
- 4.02.07.18 Use a Punnett square to solve monohybrid and dihybrid cross problems
- 4.02.07.19 Define a mutation and discuss its significance
- 4.02.07.20 Describe briefly examples of recombinant DNA technology
- 4.02.08.00 Classify organisms by observable characteristics
I-10, R-11, M-11**
- 4.02.09.00 Demonstrate knowledge of the general function of the human body
I-11, R-12, M-AD, R-BD, LL**
- 4.02.09.01 Define the terms Anatomy, Physiology and Pathology
- 4.02.09.02 Describe the organization of the body from cells to the whole organism
- 4.02.09.03 List ten body systems and give the general function of each
- 4.02.09.04 Define metabolism and name the two phases of metabolism
- 4.02.09.05 Briefly explain the role of ATP in the body
- 4.02.09.06 Define homeostasis and negative feedback

Science Literacy

- 4.02.09.07 List and define the main directional terms for the body
- 4.02.09.08 List and define the three planes of division of the body
- 4.02.09.09 Name the subdivisions of the dorsal and ventral cavities
- 4.02.09.10 Name the basic metric units of length, weight, and volume
- 4.02.09.11 Define the metric prefixes - kilo-, cent-, milli-, and micro-
- 4.02.10.00 **Demonstrate knowledge of chemistry, matter, and life**
I-11, R-12, M-AD, R-BD, LL
- 4.02.10.01 Identify elements on the periodic table
- 4.02.10.02 Describe the structure of an atom
- 4.02.10.03 Differentiate between atoms and molecules
- 4.02.10.04 Define the atomic number of an atom
- 4.02.10.05 Differentiate among elements, compounds, mixtures, and give examples of each
- 4.02.10.06 Explain why water is so important to the body
- 4.02.10.07 Define mixture; list the three types of mixtures and give two examples of each
- 4.02.10.08 Differentiate between ionic and covalent bonds
- 4.02.10.09 Define the terms acid, base and salt
- 4.02.10.10 Explain how the numbers on the pH scale relate to acidity and alkalinity
- 4.02.11.00 **Demonstrate knowledge of cells and their functions**
I-11, R-12, M-AD, R-BD, LL
- 4.02.11.01 List three types of microscopes used to study cells
- 4.02.11.02 Describe the function and composition of cytoplasm
- 4.02.11.03 Name and describe the main organelles in the cell

Science Literacy

- 4.02.11.04 Give the composition, location, and function of DNA
- 4.02.11.05 Give the location and function of RNA
- 4.02.11.06 Explain briefly how cells make proteins
- 4.02.11.07 Describe briefly the steps of cell division
- 4.02.11.08 List four methods by which substances enter and leave cells
- 4.02.11.09 Explain diffusion, filtration and osmosis
- 4.02.11.10 Define CANCER
- 4.02.11.11 List several risk factors of CANCER
- 4.02.12.00 Demonstrate knowledge of tissues, glands and membranes
I-11, M-AD, R-BD**
- 4.02.12.01 Name the four main groups of tissues and give the location and general characteristics of each
- 4.02.12.02 Describe the difference between exocrine and endocrine glands
- 4.02.12.03 Give examples of soft, hard, and liquid connective tissues
- 4.02.12.04 Name four types of membranes and give location and functions of each
- 4.02.12.05 Describe two types of epithelial membranes
- 4.02.12.06 Explain the difference between malignant tumors and benign tumors
- 4.02.12.07 List four methods of diagnosing cancer
- 4.02.12.08 List four methods of treating cancer
- 4.02.13.00 Demonstrate knowledge of disease and disease producing organisms
I-11, M-AD, R-BD**
- 4.02.13.01 Define disease and list seven causes of disease
- 4.02.13.02 List eight predisposing causes of disease

Science Literacy

- 4.02.13.03 Differentiate between acute and chronic disease
- 4.02.13.04 List four types of organisms studied in microbiology and give characteristics of each
- 4.02.13.05 List some disease caused by each type of microorganism
- 4.02.13.06 Describe the three types of bacteria according to shape
- 4.02.13.07 List several diseases in humans caused by worms
- 4.02.13.08 Describe how infections may be spread
- 4.02.13.09 Describe several public health measures taken to prevent spread of disease
- 4.02.13.10 Differentiate sterilization, disinfection, and antisepsis
- 4.02.13.11 Describe universal precautions
- 4.02.13.12 Define Chemotherapy
- 4.02.13.13 Describe several methods used to identify microorganisms in the laboratory
- 4.02.14.00 Demonstrate knowledge of the integumentary system
I-11, M-AD, R-BD**
- 4.02.14.01 Describe the layers of the Integumentary System
- 4.02.14.02 Describe the location and function of the appendages of the skin
- 4.02.14.03 List the main functions of the skin
- 4.02.14.04 Summarize the information to be gained by observation of the skin
- 4.02.14.05 List the main diseases of the skin
- 4.02.15.00 Demonstrate knowledge of the skeletal system
I-11, M-AD, R-BD**
- 4.02.15.01 Name the three different types of bone cells and describe the functions of each

Science Literacy

- 4.02.15.02 Differentiate between compact bone and spongy bone
- 4.02.15.03 Describe the structure of a long bone
- 4.02.15.04 Explain how long bones grow
- 4.02.15.05 Differentiate between red and yellow marrow
- 4.02.15.06 List the bones of the axial skeleton
- 4.02.15.07 List the bones of the appendicular skeleton
- 4.02.15.08 Describe five bone disorders
- 4.02.15.09 Describe three abnormal curves of the spine
- 4.02.15.10 List and define six types of fractures
- 4.02.15.11 Describe the three types of joints
- 4.02.15.12 Describe the structure of a synovial joint
- 4.02.15.13 Define six types of movement that occur at a synovial joint
- 4.02.15.14 Describe four types of arthritis
- 4.02.16.00 Demonstrate knowledge of the muscular system
I-11, R-12, M-AD, R-BD, LL**
- 4.02.16.01 List the characteristics of skeletal muscles
- 4.02.16.02 Describe how muscles contract
- 4.02.16.03 List the substances needed in muscle contraction and describe the function of each
- 4.02.16.04 Define oxygen debt
- 4.02.16.05 Compare isotonic and isometric contractions
- 4.02.16.06 Explain how muscles work in pairs to produce movement
- 4.02.16.07 Name some major muscles in each muscle group

Science Literacy

- 4.02.16.08 Describe how muscles change with age
- 4.02.16.09 List the major muscular disorders
- 4.02.17.00 Demonstrate knowledge of the nervous system
I-11, R-12, M-AD, R-BD, LL**
- 4.02.17.01 Describe the organization of the nervous system according to structure and function
- 4.02.17.02 Explain the transmission of a nerve impulse
- 4.02.17.03 Define synapse and describe the role of neurotransmitters at the synapse
- 4.02.17.04 Name the three types of nerves and explain how they differ from each other
- 4.02.17.05 Describe the spinal cord and name several functions
- 4.02.17.06 Describe and name the spinal nerves
- 4.02.17.07 Name and describe the main parts of the reflex arc and cite examples of reflexes
- 4.02.17.08 Compare the location and functions of the two parts of autonomic nervous system
- 4.02.18.00 Demonstrate knowledge of the sensory system
I-11, R-12, M-AD, R-BD, LL**
- 4.02.18.01 Describe the function of the sensory system
- 4.02.18.02 List the major senses
- 4.02.18.03 Describe the structure of the eye
- 4.02.18.04 Define refraction and list the refractive media of the eye
- 4.02.18.05 List several disorders of the eye
- 4.02.18.06 Describe the three divisions of the ear
- 4.02.18.07 Describe the receptors for hearing and equilibrium

Science Literacy

- 4.02.18.08 Define general sense and give five examples of such senses
- 4.02.19.00 Demonstrate knowledge of the endocrine system**
I-11, R-12, M-AD, R-BD, LL
- 4.02.19.01 Compare the effects of the nervous system and the endocrine system in controlling the body
- 4.02.19.02 Explain how hormones are regulated
- 4.02.19.03 Identify the glands of the endocrine system
- 4.02.19.04 List the hormones produced by each endocrine gland
- 4.02.19.05 Describe how the hypothalamus controls the anterior and posterior pituitary
- 4.02.19.06 Explain how the endocrine system responds to stress
- 4.02.20.00 Demonstrate knowledge of the blood**
I-11, R-12, M-AD, R-BD, LL
- 4.02.20.01 List the functions of the blood
- 4.02.20.02 List the main ingredients in plasma
- 4.02.20.03 Name the three types of formed elements in the blood
- 4.02.20.04 Describe five types of leukemia
- 4.02.20.05 Describe the formation of the blood cells and give approximate lifespan of each type
- 4.02.20.06 Cite three steps of hemostasis
- 4.02.20.07 Describe the steps in blood clotting
- 4.02.20.08 Define blood type and explain the effect of blood on transfusion
- 4.02.20.09 List the reasons for transfusions of whole blood and blood components
- 4.02.20.10 Define anemia
- 4.02.20.11 Define leukemia

Science Literacy

- 4.02.20.12 Describe the tests used to study the blood
- 4.02.21.00 Demonstrate knowledge of the heart and heart disease
I-11, R-12, M-AD, R-BD LL**
- 4.02.21.01 Describe the three layers of the heart
- 4.02.21.02 Name the four chambers of the heart
- 4.02.21.03 Name the valves at the entrance and exit of each ventricle
- 4.02.21.04 Describe blood circulation through the myocardium
- 4.02.21.05 Name the components of the heart's conduction system
- 4.02.21.06 Describe the cardiac cycle
- 4.02.21.07 Explain what produces the two main heart sounds
- 4.02.21.08 Define several terms that describe different heart rates
- 4.02.21.09 Describe several common types of heart disease
- 4.02.21.10 List six areas that might contribute to the prevention of heart disease
- 4.02.21.11 Describe five instruments used to study the heart
- 4.02.21.12 Describe the electric activity of the heart
- 4.02.21.13 Describe three approaches to the treatment of heart diseases
- 4.02.22.00 Demonstrate knowledge of blood vessels and blood circulation
I-11, R-12, M-AD, R-BD, LL**
- 4.02.22.01 Differentiate among the three main types of blood vessels
- 4.02.22.02 Compare the locations and functions of the pulmonary and systemic circuits
- 4.02.22.03 Describe the three coats of the blood vessels
- 4.02.22.04 Name the four sections of the aorta
- 4.02.22.05 Name the main branches of the aorta

Science Literacy

- 4.02.22.06 Define venous sinus
- 4.02.22.07 Name the main vessels that drain into the superior and inferior vena cava
- 4.02.22.08 Describe the structure and function of the hepatic portal system
- 4.02.22.09 Explain how materials are exchanged across the capillary wall
- 4.02.22.10 Describe the factors that regulate blood flow
- 4.02.22.11 Define pulse and list factor that affect pulse rate
- 4.02.22.12 List several factors that affect blood pressure
- 4.02.22.13 Explain how blood pressure is commonly measured
- 4.02.22.14 List some disorders that involve the blood vessels
- 4.02.22.15 List four types of shock
- 4.02.23.00 Demonstrate knowledge of the lymphatic system
I-11, R-12, M-AD, R-BD, LL
- 4.02.23.01 List the three major functions of the lymphatic system
- 4.02.23.02 Explain how lymphatic capillaries differ from blood capillaries
- 4.02.23.03 Name the two main lymphatic ducts and describe the area drained by each
- 4.02.23.04 List the major structures of the lymphatic system
- 4.02.23.05 Describe the composition and function of the reticuloendothelial system
- 4.02.24.00 Demonstrate knowledge of the body defenses, immunity and vaccines
I-11, R-12, M-AD, R-BD, LL
- 4.02.24.01 List the factors that determine the occurrence of infection
- 4.02.24.02 Differentiate between nonspecific and specific body defenses
- 4.02.24.03 Describe the inflammatory reaction

Science Literacy

- 4.02.24.04 List several types of inborn immunity
- 4.02.24.05 Differentiate between natural and artificial immunity
- 4.02.24.06 Differentiate between active and passive immunity
- 4.02.24.07 Define antigen and antibody
- 4.02.24.08 Compare T cells and B cells
- 4.02.24.09 Define the term vaccine
- 4.02.24.10 Define the term immune serum
- 4.02.24.11 List several disorders of the immune system
- 4.02.25.00 Demonstrate knowledge of the respiratory system
I-11, R-12, M-AD, R-BD, LL**
- 4.02.25.01 Define respiration and describe the three phases of respiration
- 4.02.25.02 Name all the structures of the respiratory system
- 4.02.25.03 Explain the mechanism for pulmonary ventilation
- 4.02.25.04 List the ways in which oxygen and carbon dioxide are transported in the blood
- 4.02.25.05 Describe the ways in which respiration is regulated
- 4.02.25.06 List and define the five symptoms of abnormal respiration
- 4.02.25.07 Describe four types of respiratory infection
- 4.02.25.08 Name the diseases involved in chronic obstructive pulmonary disease
- 4.02.26.00 Demonstrate knowledge of the digestive system
I-11, R-12, M-AD, R-BD, LL**
- 4.02.26.01 Name the two main functions of the digestive system
- 4.02.26.02 Describe the four layers of the digestive tract wall
- 4.02.26.03 Describe the layers of the peritoneum

Science Literacy

- 4.02.26.04 Name and describe the organs of the digestive tract
- 4.02.26.05 Name and describe the accessory organs
- 4.02.26.06 List the functions of each organ involved in digestion
- 4.02.26.07 Explain the role of enzymes in digestion
- 4.02.26.08 Name the digestion products of fats, protein, and carbohydrates
- 4.02.26.09 Define absorption
- 4.02.26.10 Define villi and state how villi function in absorption
- 4.02.26.11 Describe how bile functions in digestion
- 4.02.26.12 Name the ducts that carry bile into the digestive tract
- 4.02.26.13 List the main functions of the liver
- 4.02.26.14 Explain the use of feedback in regulating digestion
- 4.02.27.00 Demonstrate knowledge of body fluids**
I-11, R-12, M-AD, R-BD, LL
- 4.02.27.01 Compare intracellular and extracellular fluids
- 4.02.27.02 List four types of extracellular fluids
- 4.02.27.03 Name the systems that are involved in water balance
- 4.02.27.04 Define electrolytes and describe their importance
- 4.02.27.05 Describe three methods for regulating pH of body fluids
- 4.02.27.06 Describe five disorders involving body fluids
- 4.02.27.07 Describe fluids used in therapy
- 4.02.28.00 Demonstrate knowledge of the urinary system**
I-11, R-12, M-AD, R-BD, LL
- 4.02.28.01 List the systems that eliminate waste and name the substances eliminated by each

Science Literacy

- 4.02.28.02 Describe the parts of the urinary system and name the functions of each
- 4.02.28.03 Trace the path of a drop of blood as it flows through the kidney
- 4.02.28.04 Describe the nephron
- 4.02.28.05 Name the four processes involved in urine formation
- 4.02.28.06 Identify the role of ADH in urine formation
- 4.02.28.07 Name two hormones produced by the kidneys
- 4.02.28.08 List five signs of chronic renal failure
- 4.02.28.09 Explain the purpose of kidney dialysis
- 4.02.28.10 Name three normal and six abnormal constituents of urine
- 4.02.29.00 Demonstrate knowledge of the reproductive system
I-11, R-12, M-AD, R-BD, LL**
- 4.02.29.01 Name the male and female gonads and describe the function of each
- 4.02.29.02 State the purpose of meiosis
- 4.02.29.03 List the accessory organs of the male and female reproductive tracts and cite the function of each
- 4.02.29.04 Describe the composition and function of semen
- 4.02.29.05 Draw and label a spermatozoon
- 4.02.29.06 List in order the hormones produced during the menstrual cycle and cite the source of each
- 4.02.29.07 Describe the functions of the main male and female sex hormones
- 4.02.29.08 Explain how negative feedback regulates reproductive function in both males and females
- 4.02.29.09 Describe the major disorders of the male and female reproductive tract

Science Literacy

- 4.02.29.10 Describe fertilization and early development of the fertilized egg
- 4.02.29.11 Describe the structure and function of the placenta
- 4.02.29.12 Describe the four stages of labor
- 4.02.29.13 Cite the advantages of breast feeding
- 4.02.29.14 Describe the changes that occur during and after menopause
- 4.02.29.15 Describe contraception and cite the main methods of contraception currently in use
- 4.02.30.00 Demonstrate heredity and hereditary diseases
I-11, R-12, M-AD, R-BD, LL
- 4.02.30.01 Describe the mechanism of gene function
- 4.02.30.02 Explain the difference between dominant recessive genes
- 4.02.30.03 Describe a carrier of genetic trait
- 4.02.30.04 Define meiosis
- 4.02.30.05 Explain how sex is determined in humans
- 4.02.30.06 Describe what is meant by the term sex linked
- 4.02.30.07 List several factors that may influence the expression of a gene
- 4.02.30.08 Define mutation
- 4.02.30.09 Differentiate among congenital, genetic and hereditary disorders
- 4.02.30.10 List several factors that may produce genetic disorders
- 4.02.30.11 Describe several methods used to trait genetic disorders

SOCIAL/CULTURAL LITERACY

Growth of Social, Political, and Economic Institutions

- | | |
|------------|---|
| 5.01.01.00 | Describe the role of individuals within their political system, process of voter registration, the election process and responsibility and privileges of citizenship and how law protects individuals
M-12 |
| 5.01.01.01 | Consider the importance of registering to vote and voting in a democratic society |
| 5.01.01.02 | Identify the legal responsibilities of citizenship |
| 5.01.01.03 | Describe the ways officials can be elected, appointed, or removed from office |
| 5.01.01.04 | Know the purpose of and qualifications for voting in Ohio's primary and general elections |
| 5.01.03.00 | Examine important historical documents in context with the American experience including socio-political and ideological influences that shaped their design. (NW Ordinance, Declaration of Independence, Bill of Rights, and Constitution)
M-12 |
| 5.01.03.01 | Explain the purpose and contents of the Bill of Rights |
| 5.01.03.02 | Demonstrate an understanding of federalism (local, state, national) |
| 5.01.03.03 | Identify the main function of each branch (legislative, executive, judicial) at different levels |
| 5.01.03.04 | Describe the process for making, amending, or removing laws |
| 5.01.03.05 | Identify representative symbols: flag, national anthem, Pledge of Allegiance, Independence Day, etc. |
| 5.01.03.06 | Understand and apply the principles of separation of powers and checks and balances |
| 5.01.03.07 | Distinguish the constitutional relationship among the several levels of government regarding reserved powers, delegated powers, concurrent powers, elastic clause, and powers denied the government |

Social/Cultural Literacy

- 5.01.04.00** Describe the political process
M-12
- 5.01.04.01 Understand the role of political parties in a democracy
- 5.01.04.02 Understand the role of public officials and how policy is carried out
- 5.01.04.03 Describe strengths and weaknesses of the American System
- 5.01.04.04 Describe how resources are gathered to support the process and policies
- 5.01.04.05 Understand that lawmaking is influenced through formal and informal processes
- 5.01.04.06 Explain the relationship of public policy to political processes and interpret policy in light of the formal and informal processes taking place within a constitutional framework
- 5.01.04.07 Explore the relationship which exists between the formal and informal procedures of government as a means to evaluate the role of the citizen in policy making
- 5.01.05.00** Compare and contrast political systems
I-11, M-12
- 5.01.05.01 Distinguish characteristics and essential features of representative democracy, monarchy, and dictatorships
- 5.01.05.02 Identify international governing bodies (e.g., United Nations, League of Nations, World Bank, European Economic Community, Organization of American States, etc.) and their impact
- 5.01.06.00** Compare the culture, customs, and traditions of different ethnic and minority groups in America
M-12
- 5.01.06.01 Be aware of the diverse social, psychological, political, and economic factors which influence lifestyles
- 5.01.06.02 Evaluate methods and procedures applied by individuals, groups and social agencies to overcome social and economic barriers

Social/Cultural Literacy

- 5.01.06.03 Determine the role of, and conflict between, American values such as order, freedom, equality and individualism as they operate in the American Political System
- 5.01.06.04 Assess the impact of social class and social structure on economic development in specific countries in the First World and in the Third World
- 5.01.06.05 Identify factors which have contributed to America's cultural pluralism, including historical, racial, ethnic, religious, and linguistic backgrounds of this nation's people
- 5.01.06.06 Identify significant features of the 14th Amendment (due process and equal protection of the laws)
- 5.01.07.00 Know that individuals and societies make choices to satisfy wants with limited resources
I-11, M-12**
- 5.01.07.01 Develop an understanding of economic systems
- 5.01.07.02 Develop an understanding of the structure and functions of the American economy
- 5.01.07.03 Recognize the uneven distribution of world resources
- 5.01.07.04 Describe the role of technological growth in economic development and the impact of technology on the physical and human environment
- 5.01.07.05 Compare the benefits and costs of consuming versus saving
- 5.01.07.06 Explain the benefits and costs of investing in human and physical capital and describe how adding new capital resources can increase productivity
- 5.01.07.07 Suggest the impact of savings and credit usage on the economy
- 5.01.07.08 Identify the functions and characteristics of money and suggest acceptable and unacceptable forms of money
- 5.01.07.09 Identify types of financial institutions and explore their roles as intermediaries between households and businesses

Social/Cultural Literacy

- 5.01.07.10 Understand the following economic concepts: 1) individuals and households exchange their resources for the income they need to buy goods and services; 2) individuals and businesses use resources to produce goods and services and generate income; 3) markets allocate goods and services; 4) competition affects markets; 5) local, state, and national governments play important roles in a market economy
- 5.01.07.11 Determine patterns of movement of people, ideas, products, and capital, and identify the linkages that prompt interdependence among people and societies
- 5.01.07.12 Describe human modifications of the physical environment and consider alternative approaches to dealing with the environment
- 5.01.07.13 Examine the impact events in one market may have on other markets and the interdependence of markets
- 5.01.07.14 Identify multinational corporations and assess their role in world economic development and trade
- 5.01.07.15 Relate scarcity and distribution of resources to current issues
- 5.01.07.16 Create alternative scenarios pertaining to current issues to determine the impact of personal and social economic decisions on the allocation of resources

Human Diversity and Historical/Current Issues

- 5.02.01.00 Describe the causes and effects of selected wars
I-11, M-12
- 5.02.02.00 Describe the diversity of populations encompassing the Civil Rights movement, racism, ethnocentrism, and minority group movements
I-11, M-12
- 5.02.02.01 Recognize diversity among significant individuals
- 5.02.02.02 Recognize diversity among significant organizations
- 5.02.02.03 Recognize diversity surrounding immigration
- 5.02.02.04 Recognize diverse ethnic and minority groups

Social/Cultural Literacy

- 5.02.02.05 Recognize major world religions
- 5.02.02.06 Describe the relationship between diversity and historical development and contributions
- 5.02.03.00 Describe how an individual interacts with the various societal, economic, and political systems
I-11, M-12
- 5.02.03.01 Be aware of the diverse social, psychological, political and economic factors which influence lifestyles
- 5.02.03.02 Recognize individuals and societal practices which result in exceptional treatment of people from various backgrounds
- 5.02.03.03 Identify and define the basic concepts of community and community development, and the role of individuals within their political systems and opportunities for civic involvement
- 5.02.03.04 Describe and discuss contemporary domestic and international political issues and events, and evaluate the way they impact on self and society
- 5.02.03.06 Justify proposed solutions to international problems by explaining how the solutions would be acceptable to the parties involved
- 5.02.03.07 Create alternative scenarios to determine the impact and reaction of regions or nations to proposed solutions to current issues

Analyzing Information

- 5.03.01.00 Differentiate between primary and secondary sources of information
I-11, M-12
- 5.03.02.00 Illustrate that information can be influenced by cultural bias or propaganda
I-11, M-12
- 5.03.03.00 Analyze and explain social, cultural and political problems and suggest remedies to those problems
I-11, M-12

Social/Cultural Literacy

- 5.03.03.01 Hypothesize the influence of the past on the present including both the limitations and the opportunities made possible by decisions in the past
- 5.03.03.02 Consider how different choices in the past could have led to different consequences and project how different choices in the present could lead to different consequences\
- 5.03.03.03 Use appropriate resources to research antecedent development to current issues
- 5.03.03.04 Project the consequences of different decisions based on past experiences
- 5.03.03.05 Create alternative scenarios pertaining to current issues to determine the impact of proposed solutions on democratic principles
- 5.03.03.06 Explore the roots of prejudice and identify ways of combating prejudice
- 5.03.04.00 **Compare and contrast culture, customs and traditions of ethnic and minority groups**
I-11, M-12
- 5.03.05.00 **Analyze social forces the influence family life**
I-11, M-12
- 5.03.06.00 **Demonstrate the ability to use information that enables citizens to make informed choices**
I-11, LL
- 5.03.06.01 Use multiple historical narratives to research the connections between current events and their antecedents
- 5.03.06.02 Identify, analyze, and synthesize historians' arguments, explanations, or interpretations of historical events/issues
- 5.03.06.03 Identify, analyze, and synthesize arguments, explanation, or interpretations of antecedent developments to current issues
- 5.03.06.04 Use appropriate resources to research antecedent developments to current issues
- 5.03.06.05 Obtain needed historical data from a variety of sources

Social/Cultural Literacy

- 5.03.06.06 Demonstrate the ability to use information that enables citizens to **make informed choices**: analyze sources to obtain information; **compare and contrast points of agreement and disagreement** among sources; evaluate the reliability of available information; identify and weigh alternative viewpoints
- 5.03.06.07 Compare points of agreement and disagreement among sources providing information about civic issues
- 5.03.07.00 **Communicate and cooperate with people of different cultural backgrounds**
I-11, LL
- 5.03.08.00 Collect and analyze information from charts, graphs, maps, and pictures
I-11, M-12
- 5.03.09.00 Identify and explain how world problems and future trends will impact his or her life
I-11, M-12
- 5.03.10.00 Describe and discuss world patterns of population, geographic land forms, climate regions, and economic activities
I-11, M-12
- 5.03.11.00 Identify opportunities for involvement in civic activities
I-11, LL
- 5.03.11.01 Explain the importance of and decide upon the best methods for **citizen** participation in the policy process given a particular set of circumstances
- 5.03.11.02 Participate with others in evaluating public policy and work to achieve consensus on how the policy issues should be addressed
- 5.03.11.03 Distinguish between voluntary efforts that involve monitoring and influencing public policy and those that do not
- 5.03.11.04 Understand that the evolution of democratic principles (e.g., civil rights, widening franchise) can occur through civil disobedience
- 5.03.11.5 Participate in a project designed to serve the community

Social/Cultural Literacy

- 5.03.12.00 Hypothesize the influence of the past on the present including both the limitations and the opportunities made possible by decisions in the past
I-11, M-12
- 5.03.13.00 Consider how different choices in the past could have led to different consequences and project how different choices in the present could lead to different consequences
I-11, M-12
- 5.03.14.00 Project the consequences of different decisions based on past experiences
I-11, M-12

COMPUTER LITERACY

- 10.04.01.00** **Demonstrate knowledge of Computer Literacy I for Windows I-9/10, M-11, R-12**
- 10.04.01.01 Explain what a computer is and how it processes data to produce information
- 10.04.01.02 Identify the four operations of the information processing cycle: input, process, output, and storage
- 10.04.01.03 Explain how the operations of the information processing cycle are performed by computer hardware and software
- 10.04.01.04 Describe the elements of an information system: equipment, software, data, personnel, users, and procedures
- 10.04.01.05 Explain the responsibilities of information system personnel
- 10.04.01.06 Explain the use of computers in our world
- 10.04.01.07 Identify the most widely used general microcomputer software applications and their key processing features
- 10.04.01.08 Describe how each application can help users
- 10.04.01.09 Explain integrated software and its advantages
- 10.04.01.10 List and describe the guidelines for purchasing hardware and software packages
- 10.04.01.11 List and describe the learning aids and support tools that help users to use microcomputer applications
- 10.04.01.12 Define the types of inputs and outputs and how the computer uses each type
- 10.04.01.13 Define data and explain the terms used to describe data: field, record, file, database
- 10.04.01.14 Describe the standard features of keyboards, and explain how to use the cursor control and function keys
- 10.04.01.15 Explain the types of terminals and how they are used

Computer Literacy

- 10.04.01.16 Explain user interfaces and list the features that a good user interface should have
- 10.04.01.17 Discuss how data entry differs in interactive and batch processing
- 10.04.01.18 List and explain the systems and procedures associated with data entry
- 10.04.01.19 Explain the term ergonomics and describe some of the important features of good equipment design
- 10.04.01.20 Identify the components of the processor unit and describe their use
- 10.04.01.21 Define a bit and describe how a series of bits in a byte is used to represent characters
- 10.04.01.22 Discuss how the ASCII and EBCDIC codes represent characters
- 10.04.01.23 Discuss the primary factors that affect the speed of the processor unit
- 10.04.01.24 Describe the characteristics of RAM and ROM memory, and list several other types of memory
- 10.04.01.25 List the common types of reports that are used for output
- 10.04.01.26 Describe multimedia
- 10.04.01.27 Describe the features and classifications of printers
- 10.04.01.28 Identify and explain the differences of impact and non-impact printers
- 10.04.01.29 Describe the types of screens available and list common screen features
- 10.04.01.30 Define auxiliary storage
- 10.04.01.31 Describe the forms of auxiliary storage used and how special-purpose storage devices are used
- 10.04.01.32 Explain how data is stored on diskettes, hard disks and tape
- 10.04.01.33 Explain how data stored on magnetic disks can be protected

Computer Literacy

- 10.04.01.34 Explain what data management is and why it is needed
- 10.04.01.35 Describe sequential files, indexed files, and direct (or relative) files
- 10.04.01.36 Explain the difference between sequential and random retrieval of record from a file
- 10.04.01.37 Describe the data maintenance procedures for updating data including adding, changing, and deleting
- 10.04.01.38 Discuss the advantages of a database management system (DBMS)
- 10.04.01.39 Define and describe the basic components of a communications system
- 10.04.01.40 Describe the various transmission media and line configurations used for communication channels
- 10.04.01.41 Identify and explain the communications equipment used in a communications system
- 10.04.01.42 Describe the functions performed by communications software including how data is transmitted
- 10.04.01.43 List the major categories of networks and describe the common network configurations
- 10.04.01.44 Describe how bridges and gateways are used to connect networks
- 10.04.01.45 Define the term management information systems and explain how information is important to an organization
- 10.04.01.46 Discuss the different levels in an organization and how the information requirements differ for each level
- 10.04.01.47 Define the term information system and identify the elements of an information system
- 10.04.01.48 Describe the different types of information systems and the trend toward integration
- 10.04.01.49 Explain how personal computers are used in management information systems

Computer Literacy

- 10.04.01.50 Discuss how electronic devices and applications are used in the automated office
- 10.04.01.51 Describe the technologies that are developing for the automated factory
- 10.04.01.52 Discuss the trend toward computer-integrated enterprise
- 10.04.01.53 Discuss the use of personal computers in the home
- 10.04.01.54 Describe the methods used in computer-aided instruction (CAI)
- 10.04.01.55 Explain the guidelines for purchasing personal computers
- 10.04.01.56 Discuss the social issues relating to computers
- 10.04.01.57 Define data and information
- 10.04.01.58 Describe the use and handling of diskettes and hard disks
- 10.04.01.59 Discuss computer software and explain the difference between application software and system software
- 10.04.01.60 Describe what a graphic user interface (GUI) is
- 10.04.01.61 Identify the elements of a window
- 10.04.01.62 Perform basic mouse operations
- 10.04.01.63 Perform the following window operations; choose a command from a menu; respond to dialogue boxes; name a file; explain what a directory, subdirectory and path are; open, enlarge and scroll a window; and obtain on-line help while using an application

COMMON CORE

Medical Terminology

(Mult 101)

- | | |
|--------------------|---|
| 11.01.01.00 | Use common medical symbols, abbreviations and selected English, Latin and Greek equivalents
I-11, M-11, R-12, LL |
| 11.01.01.01 | Identify commonly used medical symbols (e.g. + = acid reaction) |
| 11.01.01.02 | Write out full names of commonly used abbreviations (e.g. Hx = History) |
| 11.01.01.03 | Spell medical terms correctly |
| 11.01.02.00 | Demonstrate knowledge of medical terminology
I-11, M-11, R-12, LL |
| 11.01.02.01 | Define basic prefixes and suffixes |
| 11.01.02.02 | Spell basic prefixes and suffixes |
| 11.01.02.03 | Pronounce basic prefixes and suffixes |
| 11.01.02.04 | Build medical terms from root elements |
| 11.01.02.05 | Identify principal terms relating to the body as a whole |
| 11.01.02.06 | Define terms related to the integumentary system |
| 11.01.02.07 | Define terms related to the skeletal system |
| 11.01.02.08 | Define terms related to the muscular system |
| 11.01.02.09 | Define terms related to the nervous system |
| 11.01.02.10 | Define terms related to the circulatory/cardiovascular system |
| 11.01.02.11 | Define terms related to the lymphatic system |

Common Core

- 11.01.02.12 Define terms related to the respiratory system
- 11.01.02.13 Define terms related to the digestive system
- 11.01.02.14 Define terms related to the endocrine system
- 11.01.02.15 Define terms related to the urinary system
- 11.01.02.16 Define terms related to the reproductive system
- 11.01.02.17 Define terms related to the senses
- 11.01.02.18 Define terms related to immunology
- 11.01.02.19 Define terms related to pathology

Recommended Assessment: Dean Vaughn Medical Test in correlation with the Dean Vaughn Medical Terminology 350 Instructional System.

Employability Skills

- 11.02.01.00 Investigate career options
I-11, R-12, LL
- 11.02.01.01 Determine interests and aptitudes
- 11.02.01.02 Identify career options
- 11.02.01.03 Research occupations matching interests and aptitudes
- 11.02.01.04 Select career(s) that best match(es) interests and aptitudes
- 11.02.01.05 Identify advantages and disadvantages of career options, including nontraditional careers, hours of work, offshift, weekends, and holidays
- 11.02.01.06 Assess differences in wages, annual incomes, and job opportunities based on geographical location
- 11.02.01.07 Develop a career plan

Common Core

- 11.02.02.00** **Analyze potential barriers to employment**
I-11, R-12, LL
- 11.02.02.01 Identify common barriers to employment
- 11.02.02.02 Describe strategies to overcome employment barriers
- 11.02.03.00** **Apply decision-making techniques in the workplace**
I-11, R-12, LL
- 11.02.03.01 Identify the decision to be made
- 11.02.03.02 Compare alternatives
- 11.02.03.03 Determine consequences of each alternative
- 11.02.03.04 Make decisions based on values and goals
- 11.02.03.05 Evaluate the decision made
- 11.02.04.00** **Apply problem-solving techniques in the workplace**
I-11, R-12, LL, WP
- 11.02.04.01 Diagnose the problem and its causes
- 11.02.04.02 Identify alternatives and their consequences in relation to the problem
- 11.02.04.03 Examine multicultural and nonsexist dimensions of problem solving
- 11.02.04.04 Utilize resources to explore possible solutions to the problem
- 11.02.04.05 Compare and contrast the advantages and disadvantages
- 11.02.04.06 Determine appropriate action
- 11.02.04.07 Evaluate results
- 11.02.05.00** **Evaluate the relationship of self-esteem to work ethic**
I-11, M-11, R-12
- 11.02.05.01 Identify special characteristics and abilities in self and others
- 11.02.05.02 Identify internal and external factors that affect self-esteem

Common Core

- 11.02.06.00** **Analyze the relationship of personal values and goals to work ethic in and out of the workplace**
I-11, R-12, LL
- 11.02.06.01 Distinguish between values and goals
- 11.02.06.02 Determine the importance of values and goals
- 11.02.06.03 Evaluate how values affect goals
- 11.02.06.04 Identify short-term and long-term goals
- 11.02.06.05 Prioritize personal goals
- 11.02.06.06 Describe how personal values are reflected in work ethic
- 11.02.06.07 Describe how interactions in the workplace affect personal work ethic
- 11.02.07.00** **Demonstrate work ethic**
I-11, M-11, R-12, LL
- 11.02.07.01 Examine factors that influence work ethic
- 11.02.07.02 Exhibit characteristics that reflect an appropriate work ethic
- 11.02.08.00** **Prepare for employment**
I-11, M-11, R-12
- 11.02.08.01 Identify traditional and nontraditional employment sources
- 11.02.08.02 Utilize employment sources
- 11.02.08.03 Research job opportunities, including nontraditional careers
- 11.02.08.04 Interpret equal employment opportunity laws
- 11.02.08.05 Explain the critical importance of personal appearance, hygiene, and demeanor throughout the employment process
- 11.02.08.06 Prepare for generic employment tests and those specific to an occupation/organization

Common Core

- 11.02.09.00** **Design a resume**
I-11, M-11, R-12, LL
- 11.02.09.01 Identify personal strengths and weaknesses
- 11.02.09.02 List skills and/or abilities, career objective(s), accomplishments/achievements, educational background, and work experience
- 11.02.09.03 Demonstrate legible written communication skills using correct grammar, spelling, and concise wording
- 11.02.09.04 Complete resume using various formats
- 11.02.09.05 Secure references
- 11.02.10.00** **Complete and process job application forms**
I-11, M-11, R-12, LL
- 11.02.10.01 Explain the importance of an application form
- 11.02.10.02 Identify ways to obtain job application forms
- 11.02.10.03 Describe methods for handling illegal questions on job application forms according to EOE regulations
- 11.02.10.04 Demonstrate legible written communication skills using correct grammar, spelling, and concise wording following EOE guidelines
- 11.02.10.05 Return application to proper person, request interview, and follow up
- 11.02.11.00** **Demonstrate interviewing skills**
I-11, M-11, R-12, LL
- 11.02.11.01 Investigate interview environment and procedures
- 11.02.11.02 Explain the critical importance of personal appearance, hygiene, and demeanor
- 11.02.11.03 Demonstrate question and answer techniques
- 11.02.11.04 Demonstrate methods for handling difficult and/or illegal interview questions

Common Core

- 11.02.12.00** **Secure employment**
I-11, R-12, LL
- 11.02.12.01 Identify present and future employment opportunities within an occupation/organization
- 11.02.12.02 Research the organization/company
- 11.02.12.03 Use follow-up techniques to enhance employment potential
- 11.02.12.04 Compare and evaluate job offers
- 11.02.13.00** **Analyze the organizational structure of the workplace**
I-11, M-11, R-12, LL
- 11.02.13.01 Identify and evaluate employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
- 11.02.13.02 Be aware of and obey all company policies and procedures
- 11.02.13.03 Examine the role/relationship between employee and employer
- 11.02.13.04 Recognize opportunities for advancement and reasons for termination
- 11.02.14.00** **Maintain positive relations with others**
I-11, R-12, LL
- 11.02.14.01 Exhibit appropriate work habits and attitude
- 11.02.14.02 Identify behaviors to establish successful working relationships
- 11.02.14.03 Cooperate and compromise through teamwork and group participation
- 11.02.14.04 Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age
- 11.02.15.00** **Analyze opportunities for personal and career growth**
I-11, R-12, LL
- 11.02.15.01 Determine opportunities within an occupation/organization
- 11.02.15.02 Compare and contrast other opportunities

Common Core

- 11.02.15.03 List benefits of job advancement
- 11.02.15.04 Evaluate factors involved when assuming a new position within or outside an occupation/organization
- 11.02.16.00 **Exhibit characteristics needed for advancement**
I-11, R-12, LL
- 11.02.16.01 Display a positive attitude
- 11.02.16.02 Demonstrate knowledge of a position
- 11.02.16.03 Perform quality work
- 11.02.16.04 Adapt to changing situations and technology
- 11.02.16.05 Demonstrate capability for different positions
- 11.02.16.06 Participate in continuing education/training programs
- 11.02.16.07 Respect, accept, and work with ALL individuals in the workplace
- 11.02.17.00 **Assess the impact of technology in the workplace**
I-11, M-12, LL
- 11.02.17.01 Cite how past business/industry practices have influenced present business/industry processes
- 11.02.17.02 Investigate the use of technology in the workplace
- 11.02.17.03 Analyze how present skills can be applied to learning new technologies
- 11.02.18.00 **Use a variety of technological applications**
I-11, R-12, LL
- 11.02.18.01 Explore basic mathematical, scientific, computer, and technological principles
- 11.02.18.02 Use technology to accomplish assigned tasks
- 11.02.18.03 Create solutions to problems using technical means

Common Core

- 11.02.19.00** **Apply lifelong learning to individual situations**
I-11, R-12, LL
- 11.02.19.01 Define lifelong learning
- 11.02.19.02 Identify factors that cause the need for lifelong learning
- 11.02.20.00** **Adapt to change**
I-11, R-12, LL
- 11.02.20.01 Analyze the effect of change
- 11.02.20.02 Identify reasons why goals change
- 11.02.20.03 Describe the importance of flexibility when reevaluating goals
- 11.02.20.04 Evaluate the need for continuing education/training
- 11.02.21.00** **Analyze global enterprise system**
I-11, M-11, R-12, LL
- 11.02.21.01 Identify characteristics of various enterprise system
- 11.02.21.02 Examine the relationship between competition, risk, and profit
- 11.02.21.03 Illustrate how supply and demand influence price
- 11.02.22.00** **Evaluate personal money management**
I-11, M-11, R-12, LL
- 11.02.22.01 Describe the need for personal management records
- 11.02.22.02 Identify methods of taxation
- 11.02.22.03 Analyze how credit affects financial security
- 11.02.22.04 Compare types and methods of investments
- 11.02.22.05 Prepare a personal budget
- 11.02.22.06 Be an informed and responsible consumer

Common Core

- 11.02.22.07 Analyze the effects of advertising on the consumer
- 11.02.23.00 **Analyze the effects of family on work**
I-11, R-12, LL
- 11.02.23.01 Recognize how family values, goals, and priorities are reflected in the workplace
- 11.02.23.02 Identify present and future family structures and responsibilities
- 11.02.23.03 Describe personal and family roles
- 11.02.23.04 Analyze concerns of parents who work outside the home
- 11.02.23.05 Examine how family responsibilities can conflict with work
- 11.02.23.06 Resolve family-related conflicts
- 11.02.23.07 Explain how to use support systems/community resources to help resolve family-related conflict
- 11.02.24.00 **Analyze the effects of work on family**
I-11, M-11, R-12, LL
- 11.02.24.01 Identify responsibilities associated with paid and nonpaid work
- 11.02.24.02 Compare the advantages and disadvantages of multiple incomes
- 11.02.24.03 Explain how work can conflict with family responsibilities
- 11.02.24.04 Explain how work-related stress can affect families
- 11.02.24.05 Identify family support systems and resources
- 11.02.24.06 Identify stress management options to alleviate occupational "burnout"
- 11.02.25.00 **Exercise the rights and responsibilities of citizenship in the workplace**
I-11, R-12
- 11.02.25.01 Identify the basic rights and responsibilities of citizenship
- 11.02.25.02 Examine the history and contributions of all racial, ethnic, and cultural groups

Common Core

- 11.02.26.00** **Cooperate with others in the workplace**
I-11, R-12
- 11.02.26.01 Identify situations in which compromise is necessary
- 11.02.26.02 Examine how individuals from various backgrounds contribute to work-related situations
- 11.02.26.03 Demonstrate initiative to facilitate cooperation
- 11.02.26.04 Give and receive constructive criticism to enhance cooperation
- 11.02.27.00** **Evaluate leadership styles appropriate for the workplace**
I-11, M-11, LL
- 11.02.27.01 Identify characteristics of effective leaders
- 11.02.27.02 Compare leadership styles including non-traditional "coaching"
- 11.02.27.03 Demonstrate effective delegative skills
- 11.02.27.04 Identify opportunities to lead in the workplace
- 11.02.28.00** **Demonstrate effective teamwork skills**
I-11, M-11, LL
- 11.02.28.01 Identify the responsibilities of a valuable group member
- 11.02.28.02 Exhibit open-mindedness
- 11.02.28.03 Identify methods of involving each member of a team
- 11.02.28.04 Contribute to the efficiency and success of a group
- 11.02.28.05 Determine ways to motivate others
- 11.02.28.06 Explain the advantage of team decisions
- 11.02.28.07 Prepare and plan an agenda
- 11.02.28.08 Develop a plan of action
- 11.02.28.09 Assess success or failure of team

Common Core

- 11.02.29.00** Utilize effective communication skills
I-11, R-12, LL
- 11.02.29.01 Identify the importance of active listening
- 11.02.29.02 Demonstrate assertive communication
- 11.02.29.03 Recognize the importance of verbal and nonverbal cues and messages
- 11.02.29.04 Analyze written material
- 11.02.29.05 Prepare written material
- 11.02.29.06 Give and receive feedback
- 11.02.29.07 Articulate thoughts
- 11.02.29.08 Use appropriate language
- 11.02.29.09 Demonstrate the value of networking
- 11.02.30.00** Evaluate the role of small business in the economy
I-11, M-11, R-12, LL
- 11.02.30.01 Identify the benefits of small business to a community
- 11.02.30.02 Analyze opportunities for small business in a community
- 11.02.31.00** Examine considerations of starting a business
I-11, M-12, R-12, LL
- 11.02.31.01 Research a business idea
- 11.02.31.02 Compare various ways to become a small business owner
- 11.02.31.03 Investigate factors to consider in financing a new business
- 11.02.31.04 Evaluate entrepreneurship as a career option

Common Core

Insurance

- 11.03.01.00** **Secure fidelity of bonding**
I-11, R-12, M-AD, R-BD, LL
- 11.03.01.01 Identify need for fidelity of bonding
- 11.03.01.02 Complete application for fidelity of bonding
- 11.03.02.00** **Identify requirements of payment system**
I-11, R-12, M-AD, R-BD, LL
- 11.03.02.01 Identify and follow required procedures for private carriers
- 11.03.02.02 Identify and follow required procedures for noninsured patients
- 11.03.02.03 Identify and follow required procedures for Health Maintenance Organization (HMO)
- 11.03.02.04 Identify and follow required procedures for Preferred Provider Organization (PPO)
- 11.03.02.05 Identify and follow required procedures for Independent Practitioner Association (IPA)
- 11.03.02.06 Identify and follow required procedures for U.S. government employees (CHAMPUS)
- 11.03.02.07 Identify and follow required procedures for Aid to Dependent Children (ADC)
- 11.03.02.08 Identify and follow required procedures for general assistance (GA)
- 11.03.02.09 Identify and follow required procedures for medicare
- 11.03.02.10 Identify and follow required procedures for medicaid
- 11.03.03.00** **Identify procedure for diagnostic coding**
I-11, R-12, M-AD, R-BD, LL
- 11.03.03.01 Complete forms for proper coding of international classification of diseases (ICD-9 CM)

Common Core

- 11.03.03.02 Complete forms for proper coding of current procedural terminology (CPT)
- 11.03.03.03 Complete forms for proper coding of health care procedural code (HCPC)
- 11.03.03.04 Complete forms for proper coding of diagnostic related groups (DRG)

Career Exploration

- 11.04.01.00 Demonstrate knowledge of the basic forms of medical practices
I-11, M-11, LL
- 11.04.01.01 Define Sole Proprietorship
- 11.04.01.02 Define Associate Practice
- 11.04.01.03 Define Group Practice
- 11.04.01.04 Define Partnership
- 11.04.01.05 Define Professional Corporation
- 11.04.02.00 Demonstrate knowledge of medical care delivery
I-11, M-11, LL
- 11.04.02.01 Define General and Family Practice
- 11.04.02.02 Define Prepaid Comprehensive Care
- 11.04.02.03 Define Specialty Practice
- 11.04.02.04 Define Preventive Medicine
- 11.04.02.05 Define Public Health
- 11.04.03.00 Demonstrate knowledge of specialties of medicine
I-11, M-11, LL
- 11.04.03.01 Define Aerospace Medicine
- 11.04.03.02 Define Allergy and Immunology

Common Core

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|-------------|--|
| 11.04.03.03 | Define Anesthesiology |
| 11.04.03.04 | Define Dermatology |
| 11.04.03.05 | Define Emergency Medicine |
| 11.04.03.06 | Define Family Practice |
| 11.04.03.07 | Define Internal Medicine |
| 11.04.03.08 | Define Neurology |
| 11.04.03.09 | Define Nuclear Medicine |
| 11.04.03.10 | Define Obstetrics and Gynecology |
| 11.04.03.11 | Define Ophthalmology |
| 11.04.03.12 | Define Otolaryngology |
| 11.04.03.13 | Define Pathology |
| 11.04.03.14 | Define Pediatrics |
| 11.04.03.15 | Define Physical Medicine and Rehabilitation |
| 11.04.03.16 | Define Preventive Medicine |
| 11.04.03.17 | Define Psychiatry |
| 11.04.03.18 | Define Radiology |
| 11.04.03.19 | Define Surgery |
| 11.04.03.20 | Define Urology |
| 11.04.04.00 | Demonstrate knowledge of allied health professions
I-11, M-11, LL |
| 11.04.04.01 | Describe the role of the Anesthesiologist's Assistant |
| 11.04.04.02 | Describe the role of the Cardiovascular Technologist |
| 11.04.04.03 | Describe the role of the Cytotechnologist |

Common Core

- 11.04.04.04 Describe the role of the Diagnostic Medical Sonographer
- 11.04.04.05 Describe the role of the Emergency Medical Technician
- 11.04.04.06 Describe the role of the Paramedic
- 11.04.04.07 Describe the role of the Electroneurodiagnostic Technologist
- 11.04.04.08 Describe the role of the Histologic Technician/Technologist
- 11.04.04.09 Describe the role of the Medical Assistant
- 11.04.04.10 Describe the role of the Medical Illustrator
- 11.04.04.11 Describe the role of the Medical Laboratory Technician
- 11.04.04.12 Describe the role of the Medical Records Administrator
- 11.04.04.13 Describe the role of the Medical Technologist
- 11.04.04.14 Describe the role of the Nuclear Medicine Technologist
- 11.04.04.15 Describe the role of the Ophthalmic Medical Technologist
- 11.04.04.16 Describe the role of the Occupational Therapist
- 11.04.04.17 Describe the role of the Physician's Assistant
- 11.04.04.18 Describe the role of the Perfusionist/Phlebotomist
- 11.04.04.19 Describe the role of the Radiographer
- 11.04.04.20 Describe the role of the Radiation Therapy Technician
- 11.04.04.21 Describe the role of the Respiratory Technician
- 11.04.04.22 Describe the role of the Surgeon's Assistant
- 11.04.04.23 Describe the role of the Specialist in Blood Bank Technology
- 11.04.04.24 Describe the role of the Surgical Technologist

Common Core

- 11.04.05.00** **Demonstrate knowledge of members of the health care team
I-11, M-11, LL**
- 11.04.05.01 Describe the role of the EKG technician
- 11.04.05.02 Describe the role of the Medical Technologist
- 11.04.05.03 Describe the role of the Certified Medical Transcriptionist
- 11.04.05.04 Describe the role of the Translator
- 11.04.05.05 Describe the role of the Licensed Practical Nurse/Licensed Vocational
Nurse
- 11.04.05.06 Describe the role of the Registered Nurse
- 11.04.05.07 Describe the role of the Nurse Practitioner

Medical Law and Ethics

- 11.05.01.00** **Practice personal professional protocol with the medical community
I-11, M-11, R-12**
- 11.05.01.01 List licensure requirements for physicians
- 11.05.01.02 Describe methods of licensure
- 11.05.01.03 List exceptions to the need for licensure
- 11.05.01.04 Define the components of public law and private law
- 11.05.01.05 Recognize the differences between ethics and law
- 11.05.01.06 Describe the reason diagnostic related groups are causing an ethical
issue for physicians
- 11.05.01.07 Name one societal group denied health insurance
- 11.05.01.08 Comply with tax requirements
- 11.05.01.09 Maintain integrity of personal files
- 11.05.01.10 Be aware of statute of limitation
- 11.05.01.11 Identify ownership of medical records

Common Core

- 11.05.02.00 Practice personal professional responsibilities**
I-11, M-11, R-12, LL
- 11.05.02.01 Participate in professional associations
- 11.05.02.02 Participate in professional development inservices
- 11.05.03.00 Practice personal professional protocol with regard to patient issues**
I-11, M-11, R-12, LL
- 11.05.03.01 Inform patient of truth of lending law
- 11.05.03.02 Inform patient of anatomical gift act
- 11.05.03.03 List and define the three categories of medical transplants
- 11.05.03.04 Name the most common transplant
- 11.05.03.05 Name four examples of tort law
- 11.05.03.06 Define the term emancipated minor
- 11.05.03.07 Describe the three parts of a physician-patient contract
- 11.05.03.08 Define the terms implied consent and express consent
- 11.05.03.09 Define the term privileged communication
- 11.05.03.10 List instances of legally required disclosure
- 11.05.03.11 Explain the terms defamation of character, libel and slander
- 11.05.03.12 Describe the conditions for revocation or suspension of a medical license
- 11.05.03.13 Inform patient of living will
- 11.05.03.14 Explain informed consent
- 11.05.03.15 Explain reasons for termination of patient services
- 11.05.03.16 Inform patient about noncompliance with physician's recommendations
- 11.05.03.17 Inform patient about remuneration

Common Core

- 11.05.03.18 Inform patient of impact of communicable diseases
- 11.05.03.19 List ethical considerations surrounding the life of a fetus
- 11.05.04.00 **Demonstrate knowledge of professional liability**
I-11, M-11, R-12, LL
- 11.05.04.01 List rights of the physician in providing medical care
- 11.05.04.02 List rights of the patient receiving medical care
- 11.05.04.03 Define and give examples of abandonment
- 11.05.04.04 Define and give examples of professional negligence
- 11.05.04.05 Give an example of implied agreement
- 11.05.04.06 Describe the precaution that should be observed in giving written instructions to patients
- 11.05.04.07 List the reasons for keeping medical records
- 11.05.04.08 List the record keeping necessary to provide legally adequate records
- 11.05.04.09 Name the six basic principles for preventing unauthorized disclosure of patient information
- 11.05.04.10 Describe the acceptable method for making changes in medical records
- 11.05.05.00 **Demonstrate knowledge of legal issues as defined by the NATP**
I-11, M-11, R-12
- 11.05.05.01 Define terms associated with legal responsibilities
- 11.05.05.02 Identify types of lawsuits prevalent in health care facilities
- 11.05.05.03 Identify precautions to take against a civil lawsuit
- 11.05.05.04 Identify types of litigation that could apply to selected case situations
- 11.05.05.05 Identify reporting and recording process for abuse, neglect, and/or mistreatment of consumer
- 11.05.05.06 Identify the purpose of the incident/accident reports

Common Core

- 11.05.05.07 **Identify types of incidents that must be reported**
- 11.05.05.08 **Complete report for incidents involving clients, visitors, and/or health care staff**
- 11.05.05.09 **Identify responsibility regarding negligent behavior**
- 11.05.05.10 **Discuss the importance of keeping the client's personal information confidential**
- 11.05.05.11 **Discuss the health care worker's responsibility for his/her own actions**

Quality Assurance

- 11.06.01.00 **Maintain control system(s)**
I-11, M-11, R-12
- 11.06.01.01 **Perform peer review**
- 11.06.01.02 **Perform calibration and proficiency testing of equipment**
- 11.06.01.03 **Use standards and controls to check precision and accuracy of laboratory equipment**
- 11.06.01.04 **Perform record(s) audits**
- 11.06.01.05 **Discard outdated reagents**
- 11.06.01.06 **Follow all procedures exactly to test specimen**
- 11.06.01.07 **Perform test in duplicate**
- 11.06.01.08 **Periodically check the accuracy of the test results with a reference laboratory (proficiency testing)**
- 11.06.02.00 **Perform risk management**
I-11, M-11, R-12
- 11.06.02.01 **Maintain patient follow-up system (e.g. tickler file)**
- 11.06.02.02 **Participate in continuing education**

Common Core

- 11.06.03.00** **Maintain documentation records**
I-11, M-11, R-12
- 11.06.03.01 Establish criteria for Quality Health Care in each specialty, e.g.:
Nursing, Clinical Laboratory, Pharmacy, X-Ray, EKG, Respiratory
Therapy, Physical Therapy
- 11.06.03.02 Graph/chart quality control activities
- 11.06.03.03 Perform/document maintenance of equipment and other non
expendables
- 11.06.03.04 Maintain patient records
- 11.06.04.00** **Establish a quality assurance program stipulating policies and**
procedures for performance, documentation and validation of patient
care and test results
I-11, M-11, R-12
- 11.06.04.01 Maintain temperature logs
- 11.06.04.02 Perform routine maintenance and checks of equipment used by
patients and equipment used for testing
- 11.06.04.03 Where applicable perform controls and standards to validate test
results and maintain documentation of same
- 11.06.04.04 Participate in a proficiency testing program to document validity of
patient tests results in accordance with CLIA 88

Hazard Management

- 11.07.01.00** **Identify environmental safety hazards, accident prevention methods**
and disaster plans
I-11, M-11, R-12, LL
- 11.07.01.01 Identify environment of local health care settings
- 11.07.01.02 Follow environmental safety rules of facility
- 11.07.01.03 Identify fire prevention methods, fire control, fire alarm systems and
fire reporting procedures

Common Core

- 11.07.01.04 Demonstrate use of fire extinguisher
- 11.07.01.05 Identify facility disaster plan
- 11.07.01.06 Follow safety precautions for using equipment
- 11.07.01.07 Follow safety precautions for using liquids and poisonous substances
- 11.07.01.08 Identify and correct safety hazards
- 11.07.01.09 Write incident reports for accidents or safety infractions
- 11.07.01.10 Identify legal implications of accidents in health care facilities
- 11.07.02.00 **Demonstrate application of patient/client safety principles
I-11, M-11, R-12, LL**
- 11.07.02.01 Identify chemical, physical and environmental restraints
- 11.07.02.02 Identify instances in which restraints are used
- 11.07.02.03 Identify ways to minimize need for physical or chemical restraints
- 11.07.02.04 Identify safety rules pertaining to patient's activity
- 11.07.03.00 **Demonstrate principles of body mechanics and ergonomics
I-11, M-11, R-12, LL**
- 11.07.03.01 Identify principles of ergonomics
- 11.07.03.02 Demonstrate proper mechanics in lifting, moving, transferring, ambulating and positioning a patient
- 11.07.03.03 Identify common causes of back injuries
- 11.07.04.00 **Comply with state and federal regulations
I-11, M-12, R-12, LL**
- 11.07.04.01 Comply with Occupational Safety and Health Administration (OSHA) regulations
- 11.07.04.02 Comply with Environmental Protection Agency (EPA) regulations

Common Core

- 11.07.04.03 Report communicable diseases to local health authorities as specified by CLIA 88
- 11.07.05.00 **Maintain personal safety and hygiene**
I-11, M-12, R-12, LL
- 11.07.05.01 Wear uniform and/or professional attire
- 11.07.05.02 Practice proper hygiene
- 11.07.05.03 Become immunized against communicable diseases
- 11.07.05.04 Complete incident reports as required
- 11.07.05.05 Demonstrate safe and effective sterilizing methods for instruments and equipment
- 11.07.06.00 **Dispose of waste materials in compliance with government regulations**
I-11, M-12, R-12, LL
- 11.07.06.01 Practice safe, sanitary, and sterile procedures
- 11.07.06.02 Dispose of paper and plastic supplies and gloves
- 11.07.06.03 Dispose of infectious waste
- 11.07.06.04 Dispose of controlled substances
- 11.07.06.05 Handle and properly dispose of needles, glass and sharp instruments

Infection Control

- 11.08.01.00 **Demonstrate general principles of asepsis**
I-11, M-11, R-12, LL
- 11.08.01.01 Define infection control terms
- 11.08.01.02 Identify modes of transmission for infection
- 11.08.01.03 Identify common communicable diseases and modes of transmission
- 11.08.01.04 Identify physical symptoms, treatment, and prevention of infection

Common Core

- 11.08.01.05 Demonstrate universal precautions
- 11.08.01.06 Identify different aseptic techniques
- 11.08.02.00 **Demonstrate hand-washing technique**
I-11, M-11, R-12
- 11.08.02.01 Identify times when hands should be washed
- 11.08.02.02 Demonstrate each step of hand-washing procedure
- 11.08.03.00 **Practice universal precautions against infection**
I-11, M-11, R-12, LL
- 11.08.03.01 Wear appropriate protective clothing and devices
- 11.08.03.02 Demonstrate hand-washing technique
- 11.08.03.03 Perform terminal disinfection
- 11.08.04.00 **Demonstrate isolation technique**
I-11, M-11, R-12, LL
- 11.08.04.01 Identify different types of isolation
- 11.08.04.02 Demonstrate mask and gown technique
- 11.08.04.03 Demonstrate double bagging technique
- 11.08.04.04 Demonstrate procedures for disposal of soiled materials
- 11.08.05.00 **Maintain infection control of work area**
I-11, M-11, R-12, LL
- 11.08.05.01 Contain used linens
- 11.08.05.02 Clean and disinfect sink
- 11.08.05.03 Clean and disinfect counter surfaces
- 11.08.05.04 Clean and disinfect examination tables
- 11.08.05.05 Check floors

Common Core

- 11.08.06.00** **Apply principles of aseptic techniques and sterility of medical equipment and instruments**
I-11, M-11, R-12
- 11.08.06.01 Read and follow manufacturer's instructions for safe operations of all equipment and instruments
- 11.08.06.02 Apply and maintain infection control in cabinets and drawers
- 11.08.06.03 Prescrub instruments
- 11.08.06.04 Sterilize instruments
- 11.08.06.05 Store sterilized equipment and supplies
- 11.08.06.06 Maintain quality-control log

HIV/AIDS Education

(Mult 171)

- 11.09.01.00** **Demonstrate knowledge of the essential facts about HIV and AIDS and the virus**
I-11, M-11, R-12, LL
- 11.09.01.01 Define "HIV"
- 11.09.01.02 Define "AIDS"
- 11.09.01.07 Define the "Immune System"
- 11.09.01.09 Define "Antibodies"
- 11.09.01.10 Discuss what happens when someone gets the virus that causes AIDS
- 11.09.01.12 Explain the incubation period for AIDS
- 11.09.01.13 Discuss how AIDS is diagnosed
- 11.09.01.16 Discuss how long the virus survives outside the body
- 11.09.01.17 Define "Opportunistic Infections"

Common Core

- 11.09.02.00** **Demonstrate knowledge of the essential facts about HIV and AIDS and transmission and prevention**
I-11, M-11, R-12, LL
- 11.09.02.01 Explain how AIDS is spread
- 11.09.02.09 Discuss the risks of health care workers getting AIDS on the job
- 11.09.02.10 Discuss the risks of being a patient in a doctor's or dentist's office
- 11.09.02.11 Explain universal precautions
- 11.09.02.12 Identify the steps to cleaning up blood spills on the floor
- 11.09.02.27 Identify the steps to cleaning needles guarding against AIDS
- 11.09.02.28 Identify the drugs associated with getting AIDS
- 11.09.02.29 Discuss the risks of sharing needles and syringes for the I-V drug user
- 11.09.02.30 Discuss AIDS and saliva, tears, urine and feces
- 11.09.02.31 Recognize the risks of AIDS and human bites
- 11.09.03.00** **Demonstrate knowledge of the essential facts about HIV and AIDS and casual contact**
I-11, M-11, R-12, LL
- 11.09.03.01 Recognize the fact that you cannot get AIDS from casual contact such as sharing a drinking glass, public toilets, drinking fountains, telephones, public transportation, swimming pools, hugging or touching
- 11.09.04.00** **Demonstrate knowledge of the essential facts about HIV and AIDS - getting tested**
I-11, M-11, R-12, LL
- 11.09.04.01 Discuss when someone should get tested to find out if they are infected
- 11.09.04.02 Define "Confidential Testing"
- 11.09.04.03 Define "Anonymous Testing"

Common Core

- 11.09.04.04 Identify where people can get tested
- 11.09.04.05 Identify the time period between exposure and testing
- 11.09.05.00 Demonstrate knowledge of the essential facts about HIV and AIDS and the blood supply and related issues
I-11, M-11, R-12, LL
- 11.09.05.01 Discuss the facts of donating blood and AIDS
- 11.09.05.02 Discuss the risks of blood transfusions
- 11.09.05.03 Identify the procedures taken by the Red Cross to protect the blood supply
- 11.09.06.00 Demonstrate knowledge of the essential facts about HIV and AIDS and children with HIV
I-11, M-11, R-12, LL
- 11.09.06.01 Explain how babies and young children get AIDS
- 11.09.06.03 Discuss the probability of a baby testing positive meaning that he or she has HIV
- 11.09.06.04 Discuss how soon you can test a baby for HIV
- 11.09.06.08 Explain that AIDS is not transmitted in children through vomit, urine or feces
- 11.09.06.09 Identify that there is no risk of getting AIDS from a child through contact sports unless there is blood involved
- 11.09.07.00 Demonstrate knowledge of the essential facts about HIV and AIDS and the social impact
I-11, M-11, R-12, LL
- 11.09.07.01 Identify the laws protecting people with AIDS from discrimination
- 11.09.07.02 Identify the federal and state laws protecting a person with AIDS from being fired from their job
- 11.09.07.03 Recognize how AIDS affects the workplace

Common Core

- 11.09.07.05 Discuss testing the health care worker for AIDS
- 11.09.07.06 Define "Needle-Exchange" programs
- 11.09.08.00 **Identify additional facts about the AIDS virus**
I-11, M-11, R-12, LL
- 11.09.08.01 Define "ARC"
- 11.09.08.02 Explain AIDS-related complex
- 11.09.08.09 Identify the changes made recently in the way the CDC defines AIDS
- 11.09.08.13 Define "HIV-2"
- 11.09.08.14 Discuss the second HIV virus
- 11.09.08.21 Define "Pneumocystic Carinii"
- 11.09.08.22 Define "Kaposi's Sarcoma"
- 11.09.08.23 Explain how AZT works
- 11.09.09.00 **Identify additional facts about transmission and prevention of AIDS**
I-11, M-11, R-12, LL
- 11.09.09.02 Discuss the "Risk not reported or identified" category
- 11.09.09.11 Define "nonoxynol-9"
- 11.09.09.12 Define "Parenteral Transmission"
- 11.09.09.14 Explain why crack is associated with AIDS
- 11.09.09.17 Explain why police and firefighters wear gloves when dealing with people who might have AIDS
- 11.09.10.00 **Identify additional facts about testing and AIDS**
I-11, M-11, R-12, LL
- 11.09.10.01 Explain how you test for AIDS

Common Core

- 11.09.10.02 Discuss the effectiveness of the antibody blood tests
- 11.09.10.03 Explain why people are counseled before and after testing
- 11.09.11.00 **Identify additional facts about blood supply and related services and AIDS**
I-11, M-11, R-12, LL
- 11.09.11.01 Discuss freezing blood and the effect on HIV
- 11.09.11.02 Discuss storing blood and the effect on HIV
- 11.09.11.03 Explain the development of antibodies to HIV after blood is collected
- 11.09.11.04 Identify the risks of becoming infected from a transfusion
- 11.09.11.11 Explain the process of screening for AIDS in a sperm bank
- 11.09.11.12 Explain the process of screening for AIDS in an organ bank
- 11.09.11.13 Discuss AIDS and the hepatitis B vaccine
- 11.09.12.00 **Identify additional facts about children with HIV infection**
I-11, M-11, R-12, LL
- 11.09.12.05 Define "Perinatal transmission"
- 11.09.12.12 Explain why some babies of infected mothers get HIV
- 11.09.12.13 Discuss the risk of an HIV infected mother giving it to the baby
- 11.09.12.15 Discuss the difference of AIDS in babies and children compared to AIDS in adults
- 11.09.12.18 Explain the types of medicine doctors give children with HIV
- 11.09.12.19 Discuss children with AIDS and vaccinations
- 11.09.13.00 **Identify additional facts about the social impact of HIV infection**
I-11, M-11, R-12, LL
- 11.09.13.01 Discuss the costs of medical care for a person who has AIDS

Common Core

- 11.09.13.02 Discuss what might change the estimates of future medical costs of AIDS
- 11.09.13.04 Recognize the difficulty people with AIDS have getting new health insurance
- 11.09.13.05 Discuss the kinds of medical care for people with AIDS covered by Medicaid
- 11.09.13.07 Explain how the federal government divides up money for different AIDS activities
- 11.09.13.08 Discuss testing patients for HIV for the protection of the health care worker
- 11.09.14.00 Identify additional facts about first aid, CPR and aquatics and AIDS I-11, M-11, R-12, LL**
- 11.09.14.01 Discuss the safety in the use of manikins during CPR
- 11.09.14.02 Explain the decontamination process of the manikins for HIV
- 11.09.14.06 Recognize the person with AIDS as being a candidate for certification of CPR
- 11.09.14.07 Discuss modifying the First Aid and CPR requirements with the employer for the safety of all persons
- 11.09.14.08 Discuss the risks involved in performing CPR on someone when you are infected with HIV
- 11.09.14.09 Discuss the risks of becoming infected with HIV from receiving CPR from a person who is HIV infected
- 11.09.14.10 Discuss the personal, moral and ethical considerations, not legal obligations, of helping someone who is bleeding who might have AIDS
- 11.09.14.11 Recognize the risks of being a member of a First Aid team and contacting AIDS

Recommended Assessment: American Red Cross Certification

Common Core

Community First Aid and Safety

(Mult 102, Mult 103)

- 11.10.01.00 Respond as a citizen and help in an emergency**
I-11, M-11, R-12, LL
- 11.10.01.01 Recognize an emergency
- 11.10.01.02 List the 3 general steps in the emergency plan
- 11.10.01.03 Call EMS and give necessary information
- 11.10.01.04 Demonstrate how to check a conscious or an unconscious victim
- 11.10.02.00 Respond to a breathing cardiac emergency in an adult**
I-11, M-11, R-12, LL
- 11.10.02.01 List the signals of a breathing emergency
- 11.10.02.02 List the signals of a heart emergency
- 11.10.02.03 Demonstrate how to care for a person who is not breathing
- 11.10.02.04 Demonstrate how to care for a person who is choking
- 11.10.02.05 Demonstrate how to care for a person who is in cardiac arrest
- 11.10.02.06 List four risk factors associated with increased incidence of cardiovascular disease
- 11.10.03.00 Respond to a breathing or cardiac emergency in infants and children**
I-11, M-11, R-12, LL
- 11.10.03.01 List at least 4 signals of a breathing emergency for an infant child
- 11.10.03.02 Demonstrate how to care for an infant or child who is not breathing
- 11.10.03.03 Demonstrate how to care for an infant or child who is choking
- 11.10.03.04 Demonstrate how to care for an infant or child whose heart has stopped
- 11.10.03.05 List the four leading causes of childhood death

Common Core

- 11.10.03.06 List three ways to help prevent childhood injuries
- 11.10.04.00 **Recognize and care for victims of illness and sudden injuries**
I-11, M-11, R-12, LL
- 11.10.04.01 Recognize an injury or sudden illness
- 11.10.04.02 Demonstrate how to control bleeding
- 11.10.04.03 Demonstrate how to care for muscle, bone, and joint injuries
- 11.10.04.04 Describe how to care for sudden illnesses
- 11.10.04.05 List the general care steps for burns

Recommended Assessment: American Red Cross Adult CPR; American Red Cross Infant CPR; American Red Cross Standard First Aid; and American Heart Association Basic Life Support C for the Health Care Provider.

Nurse Aide Training Program

(Mult 120)

- 11.11.01.00 **Introduce the NATP**
I-11, M-11, LL
- 11.11.01.01 Identify the purpose of the NATP
- 11.11.01.02 List the role and responsibility of the trainer and NA
- 11.11.01.03 State the purpose of the CEP conducted by the director
- 11.11.01.04 Describe how to be recorded in Ohio's Nurse Aide Registry
- 11.11.01.05 Show employment verification required every 24 months
- 11.11.01.06 Use information about Ohio's Nurse Aide Registry (NAR)
- 11.11.01.07 Describe how mistreatment, abuse and neglect by NA are reported and recorded in Ohio
- 11.11.01.08 Explain the in-service requirement

Common Core

- 11.11.01.09 Explain how to receive information related to state testing
- 11.11.01.10 Discuss the differences between state tested and certified
- 11.11.02.00 **Demonstrate knowledge of work environment**
I-11, M-11
- 11.11.02.01 Describe the responsibilities of the LTCF governing body and staff
- 11.11.02.02 Identify other individuals the NA may encounter
- 11.11.03.00 **State role and responsibility of nurse aide**
I-11, M-11
- 11.11.03.01 Perform bedside nursing care
- 11.11.03.02 Maintain care of resident's unit
- 11.11.03.03 Provide nourishment
- 11.11.03.04 Provide record keeping and communication
- 11.11.03.05 Promote residents' rights
- 11.11.03.06 Maintain confidentiality
- 11.11.03.07 Set priorities
- 11.11.04.00 **Demonstrate knowledge of policy and procedure manuals**
I-11, M-11, R-12, LL
- 11.11.04.01 Identify the purpose of the facility policy and procedures manual
- 11.11.05.00 **Demonstrate knowledge of professional attitudes and appearance**
I-11, M-11, R-12, LL
- 11.11.05.01 Identify desirable attitudes and actions which will lead to successful job performance for the NA
- 11.11.05.02 Discuss desirable personal grooming habits for the NA

Common Core

- 11.11.06.00** **Demonstrate knowledge of communication and interpersonal skills**
I-11, M-11, R-12, LL
- 11.11.06.01 Describe attitudes which promote communication between people
- 11.11.06.02 Identify behaviors which will help accomplish effective communication
between the NA and residents
- 11.11.06.03 List factors which promote good communication among the NA and
the resident, resident's family and friends
- 11.11.06.04 List factors which may block effective communication between the
resident and their family and friends
- 11.11.06.05 List factors which promote effective communication between the NA
and their immediate supervisor
- 11.11.06.06 List factors which block effective communication with the immediate
supervisor
- 11.11.06.07 List steps for answering the resident's call signal
- 11.11.06.08 Identify techniques which promote effective communication using the
telephone or intercom
- 11.11.07.00** **Communicate and interact with the impaired resident**
I-11, M-11, R-12, LL
- 11.11.07.01 Describe appropriate communication techniques for vision, hearing,
speech and/or physically impaired residents
- 11.11.07.02 Identify techniques to communicate with the confused, withdrawn,
depressed, agitated, restless resident
- 11.11.07.03 List methods to communicate with the combative resident
- 11.11.08.00** **Demonstrate knowledge of resident comprehensive assessment, care**
plan and care conference
I-11, M-11, R-12, LL
- 11.11.08.01 State the purpose of a resident comprehensive assessment
- 11.11.08.02 State the purpose of a resident care plan

Common Core

- 11.11.08.03 State the purpose of the resident care conference
- 11.11.08.04 Identify the role of the NA in the care planning process
- 11.11.08.05 Describe the NA's role in gathering and documenting information on the worksheet
- 11.11.09.00 **Demonstrate knowledge of legal responsibilities**
I-11, M-11, R-12, LL
- 11.11.09.01 Identify key legal aspects of resident care as they relate to the role of the NA
- 11.11.09.02 Identify the NA's role and responsibility regarding negligent behavior by the NA and the reporting of abuse, mistreatment, and/or neglect of a resident
- 11.11.09.03 Discuss the importance of keeping the resident's personal information confidential
- 11.11.09.04 Identify the purpose of the incident/accident reports
- 11.11.09.05 Discuss the NA responsibility for own actions
- 11.11.10.00 **Demonstrate knowledge components of medical records**
I-11, M-11, R-12, LL
- 11.11.10.01 Identify the purpose of the medical record
- 11.11.10.02 Identify ways the NA can contribute to the medical record
- 11.11.10.03 Identify common medical abbreviations
- 11.11.10.04 Identify proper methods of documentation
- 11.11.11.00 **Identify basic principles of infection control**
I-11, M-11, R-12, LL
- 11.11.11.01 Identify the basic principles of infection control
- 11.11.11.02 Identify reasons why infection prevention and control is important

Common Core

- 11.11.11.03 Identify factors which promote growth of microorganisms
- 11.11.11.04 Identify ways pathogenic microorganisms are spread
- 11.11.11.05 Identify practices which hinder the spread of infection
- 11.11.12.00 **Prevent the growth and spread of pathogenic microorganisms**
I-11, M-11, R-12, LL
- 11.11.12.01 Discuss reasons for correct hand washing
- 11.11.12.02 Demonstrate effective hand washing techniques
- 11.11.12.03 Identify methods used to control or eliminate microorganisms on supplies and equipment
- 11.11.12.04 Describe the difference between clean, contaminated and sterile
- 11.11.13.00 **Identify signs and symptoms of infection and use of universal precautions**
I-11, M-11, R-12, LL
- 11.11.13.01 Identify signs and symptoms of infection
- 11.11.13.02 State the purpose of universal precautions as defined in OAC
- 11.11.13.03 Demonstrate universal precaution techniques as defined in Chapter 3734 ORC
- 11.11.13.04 Demonstrate Respiratory Isolation techniques
- 11.11.14.00 **Practice general safety practices and procedures**
I-11, M-11, R-12, LL
- 11.11.14.01 Identify reasons to apply safety precautions in LTCFs.
- 11.11.14.02 Identify safety precautions which help to prevent residents from falling
- 11.11.14.03 Identify precautions the NA should take to prevent residents from being burned

Common Core

- 11.11.14.04 Identify safety precautions the NA should take to help prevent resident falls from beds, chairs and wheelchairs
- 11.11.14.05 Identify the safety precautions the NA should take to help prevent the resident from choking
- 11.11.14.06 Identify precautions the NA should take to help prevent ingestion of harmful substances by residents
- 11.11.14.07 Demonstrate the steps of the Heimlich Maneuver
- 11.11.14.08 Identify measures the NA should take should a resident ingest a harmful substance
- 11.11.15.00 Practice safety procedures when using oxygen and oxygen equipment I-11, M-11, R-12
- 11.11.15.01 Identify safety precautions for oxygen use
- 11.11.15.02 Demonstrate a safety check of oxygen equipment
- 11.11.16.00 Demonstrate fire prevention practices and procedures to follow in case of fire disaster
I-11, M-11, R-12
- 11.11.16.01 Identify measures which should be taken to prevent fires in a LTCF
- 11.11.16.02 Describe causes of fires in LTCFs
- 11.11.16.03 Identify actions to take when a fire is discovered
- 11.11.16.04 Demonstrate fire carries
- 11.11.16.05 Identify examples of hazardous conditions that should be reported for correction
- 11.11.16.06 Name devices which are used or activated when a fire occurs in a LTCF

Common Core

- 11.11.17.00** **Demonstrate knowledge of natural disaster preparedness**
I-11, M-11, R-12
- 11.11.17.01 Discuss safety measures to be taken when there is a threat of a
tornado or other natural disaster
- 11.11.18.00** **Practice principles of ergonomics, body mechanics and body alignment**
I-11, M-11, R-12
- 11.11.18.01 Define and discuss Ergonomics as it applies to the NA
- 11.11.18.02 Define Body Mechanics
- 11.11.18.03 Identify and demonstrate the rules of good body mechanics
- 11.11.18.04 Demonstrate general principles for lifting and moving residents
- 11.11.18.05 Describe correct body alignment
- 11.11.18.06 Explain why correct body alignment is important
- 11.11.18.07 Demonstrate correct positioning of a person in proper body alignment
- 11.11.18.08 Describe the posture most commonly found among the elderly
- 11.11.19.00** **Use and application of restraints**
I-11, M-11, R-12
- 11.11.19.01 Describe the purpose of restraints
- 11.11.19.02 Identify guidelines to follow in the application of restraints
- 11.11.19.03 Describe observations to make on the resident with restraints
- 11.11.19.04 Define various types of commonly used restraints for the LTCF
- 11.11.19.05 Demonstrate how to safely apply restraints

Common Core

- 11.11.20.00** **Demonstrate use of wheelchairs, geriatric chairs, lifts, ambulation devices and techniques**
I-11, M-11, R-12
- 11.11.20.01 Identify and discuss the safety precautions involved in the use of wheelchairs and geriatric chairs
- 11.11.20.02 Demonstrate safe use of wheelchairs and geriatric chairs
- 11.11.20.03 Describe the types and purposes of hydraulic lifts
- 11.11.20.04 Identify and demonstrate safety precautions involved in the operation of portable hydraulic lifts to move residents
- 11.11.20.05 Identify safe and proper uses of walkers, canes and crutches
- 11.11.20.06 Demonstrate the safe way to assist a resident to walk
- 11.11.21.00** **Promote the residents' independence**
I-11, M-11, R-12
- 11.11.21.01 Identify losses, both physical and psychosocial, which may decrease independence
- 11.11.21.02 Identify some of the aspects of independent living a person may lose when they reside in a LTCF
- 11.11.21.03 Demonstrate positive ways a NA can promote the resident's independence
- 11.11.21.04 Name or list types of choices available to the resident to gain the highest level of independence
- 11.11.22.00** **Respect residents' rights**
R-11, M-11, R-12
- 11.11.22.01 Identify legal rights of the resident contained in the Ohio Resident Bill of Rights (ORBR)

Common Core

- 11.11.23.00 Practice observational skills
I-11, M-11, R-12**
- 11.11.23.01 Discuss the importance of observation
- 11.11.23.02 Describe various observation techniques
- 11.11.23.03 Identify observations to be made during resident care
- 11.11.23.04 Describe how to report and record observations
- 11.11.24.00 Recognize changes in body functioning
I-11, M-11, R-12**
- 11.11.24.01 Describe how the NA might recognize that a resident has impaired vision
- 11.11.24.02 Describe changes in vision which may accompany aging
- 11.11.24.03 Name diseases which may cause visual impairment
- 11.11.24.04 Demonstrate ways to change the environment to encourage the visually impaired resident's independence and to promote safety
- 11.11.24.05 Identify warning signs of hearing impairment
- 11.11.24.06 Describe changes in hearing which may accompany aging
- 11.11.24.07 Demonstrate ways to modify communication to a person with a hearing loss
- 11.11.24.08 Discuss the use and care of hearing aids
- 11.11.24.09 List actions to help prevent injury to the resident with impaired touch
- 11.11.24.10 Describe changes in behavior which may follow loss of the senses of taste and smell
- 11.11.24.11 List ways to aid the resident who has losses of taste and smell
- 11.11.24.12 Describe how the changes of aging may affect gastrointestinal function

Common Core

- 11.11.24.13 Describe the special care the NA might give a resident with a digestive disorder
- 11.11.24.14 Identify descriptions of reproductive system disorders
- 11.11.24.15 Describe changes of aging which affect the musculoskeletal system
- 11.11.24.16 Identify measures the NA can do to assist the resident with musculoskeletal diseases or problems
- 11.11.25.00 **Recognize signs and symptoms of common diseases
I-11, M-11, R-12**
- 11.11.25.01 Describe the changes of aging which may affect the heart and blood vessels
- 11.11.25.02 Identify changes the resident may experience as a result of decreased cardiovascular function and the appropriate NA actions
- 11.11.25.03 Identify changes the resident may experience as a result of decreased respiratory function
- 11.11.25.04 Identify measures to aid the resident with shortness of breath
- 11.11.25.05 Identify the common signs and symptoms of diabetes
- 11.11.25.06 Identify the three key components of the diabetic resident's treatment plan
- 11.11.25.07 List possible complications of Diabetes and related NA actions
- 11.11.25.08 Describe changes of aging which may affect urinary function
- 11.11.25.09 Identify how the NA can help promote good kidney function
- 11.11.25.10 Identify the primary nervous system changes due to aging
- 11.11.25.11 Identify common nervous system disorders found among the elderly
- 11.11.25.12 Identify actions which maintain the safety and dignity of the resident who has nervous system disorders

Common Core

- 11.11.26.00** Create a homelike environment in a Long Term Care Facility
I-11, M-11, R-12
- 11.11.26.01 Identify major items in the resident's unit
- 11.11.26.02 Identify measures to keep the resident's environment comfortable
- 11.11.26.03 Demonstrate tasks necessary to assure that the resident's unit is properly maintained
- 11.11.27.00** Use bedmaking techniques and comfort measures for the bed bound resident
I-11, M-11, R-12
- 11.11.27.01 State reasons why bedmaking techniques are important for the bed bound resident
- 11.11.27.02 Demonstrate types of bedmaking and identify when each is appropriate
- 11.11.27.03 Demonstrate measures which promote comfort for the resident
- 11.11.28.00** Admit and discharge a resident
I-11, M-11, R-12
- 11.11.28.01 Identify feelings the resident and family may have at the time of admission
- 11.11.28.02 Identify actions the NA may take to assist the resident during admission
- 11.11.28.03 Identify feelings the resident may have when discharged
- 11.11.29.00** Provide a positive mealtime experience
I-11, M-11, R-12
- 11.11.29.01 Discuss how to promote a positive atmosphere at mealtime
- 11.11.29.02 Identify devices and techniques which may be used to help the resident maintain independence while eating
- 11.11.29.03 Describe and demonstrate how to feed a resident
- 11.11.29.04 State how to identify a choking victim

Common Core

- 11.11.30.00** **Provide adequate nutrition and fluid needs**
I-11, M-11, R-12
- 11.11.30.01 Discuss factors which affect the nutritional state of the resident
- 11.11.30.02 Name examples of a modified diet
- 11.11.30.03 Identify the NA's responsibility for residents who require a therapeutic diet
- 11.11.30.04 Describe the role of the dietary department in providing nutrition for the resident
- 11.11.30.05 Identify the importance of adequate hydration
- 11.11.30.06 Describe a method to encourage fluid intake
- 11.11.31.00** **Measure height and weight**
I-11, M-11, R-12
- 11.11.31.01 Discuss why a resident's weight is regularly measured and recorded
- 11.11.31.02 Describe and demonstrate how to weight a resident accurately
- 11.11.31.03 Describe and demonstrate how to measure and record a resident's height accurately
- 11.11.32.00** **Observe and measure vital signs**
I-11, M-11, R-12
- 11.11.32.01 Identify abbreviations of the vital signs
- 11.11.32.02 Identify the cause of body temperature
- 11.11.32.03 Identify the "normal" or average body temperature
- 11.11.32.04 List situations which may cause the thermometer reading to vary from "normal or average"
- 11.11.32.05 Identify types of thermometers and situations in which they are used
- 11.11.32.06 Demonstrate how to care for glass thermometers

Common Core

- 11.11.32.07 Describe each method of check temperatures
- 11.11.32.08 Identify how the NA should record and report temperature measurements
- 11.11.32.09 State the "normal" or average pulse rate
- 11.11.32.10 Identify variations from the "normal" pulse which should be reported
- 11.11.32.11 Demonstrate the accurate taking of a radial and apical pulse
- 11.11.32.12 Discuss how to record and report pulse measurement
- 11.11.32.13 State the average respiratory rate
- 11.11.32.14 Describe how to measure respiratory rate
- 11.11.32.15 Discuss how to record and report the respiratory rate measurement
- 11.11.32.16 Identify what causes blood pressure
- 11.11.32.17 State the "normal" or average blood pressure
- 11.11.32.18 Describe variations in blood pressure
- 11.11.32.19 Identify instruments to check blood pressure
- 11.11.32.20 Describe how to check blood pressure
- 11.11.32.21 Identify how to record and report blood pressure measurements
- 11.11.33.00 **Provide oral hygiene**
I-11, M-11, R-12
- 11.11.33.01 Name goals for oral hygiene
- 11.11.33.02 Identify general practices for oral hygiene
- 11.11.33.03 State and demonstrate the correct method for brushing a resident's teeth

Common Core

- 11.11.33.04 Identify and demonstrate how to safely care for the resident's dentures
- 11.11.33.05 Describe safe mouth care for the unconscious resident or the resident who cannot take food orally
- 11.11.34.00 Give a bath
I-11, M-11, R-12**
- 11.11.34.01 Discuss factors which affect a resident's hygiene needs and practices
- 11.11.34.02 Identify the purposes of bathing
- 11.11.34.03 Identify general guidelines to follow when bathing the resident including measures for privacy and safety
- 11.11.34.04 Demonstrate a bedbath and identify actions which promote comfort for the resident while being bathed
- 11.11.34.05 Identify situations in which perineal care should be given
- 11.11.34.06 Discuss how whirlpool baths are given
- 11.11.34.07 Demonstrate how shower and tub baths are given
- 11.11.35.00 Perform additional personal care skills
I-11, M-11, R-12**
- 11.11.35.01 State why, when, and how a backrub is given
- 11.11.35.02 Discuss and demonstrate how to dress and undress the resident
- 11.11.35.03 Name 3 assistive devices that may be used in dressing/undressing a resident
- 11.11.35.04 Discuss the care of the resident's hair
- 11.11.35.05 State why it is important to comb resident's hair every day
- 11.11.35.06 Discuss the care of a residents fingernails and toenails
- 11.11.35.07 Discuss shaving the resident's facial hair

Common Core

- 11.11.36.00** **Provide special skin care**
I-11, M-11, R-12
- 11.11.36.01 Describe the signs and symptoms of a decubitus ulcer
- 11.11.36.02 Identify locations which are prone to ulcer formation
- 11.11.36.03 Describe the conditions which predispose the elderly to decubitus ulcer formation
- 11.11.36.04 Discuss and identify ways to prevent decubitus ulcers
- 11.11.36.05 Describe measures to provide skin care and comfort for the incontinent resident
- 11.11.37.00** **Care for urinary elimination needs and urinary catheters**
I-11, M-11, R-12
- 11.11.37.01 Locate on a chart, name, and briefly state the function of the kidneys, ureters, urethra and bladder
- 11.11.37.02 Identify ways in which urinary function may be altered in the aged person
- 11.11.37.03 Correctly use the terms for urinating, urine, and void
- 11.11.37.04 Describe normal and abnormal appearance of urine and abnormal sensation while urinating
- 11.11.37.05 List signs and symptoms of urinary tract infections and actions the NA may take to decrease the incidence of these infections
- 11.11.37.06 Recognize the way in which a urinary catheter works
- 11.11.37.07 Identify steps which maintain the catheter as a closed drainage system and help prevent urinary tract infection
- 11.11.37.08 Identify measures which will help keep a urinary catheter draining correctly, observations which indicate it is not draining
- 11.11.37.09 Identify measures to avoid injury to the bladder opening from pressure on the catheter

Common Core

- 11.11.37.10 Identify observations one should make about the catheterized resident
- 11.11.37.11 Identify the correct use of a leg bag to collect catheterized urine
- 11.11.37.12 Describe an external catheter and identify measures for using it correctly
- 11.11.37.13 Identify causes of incontinence
- 11.11.37.14 Describe measures to provide skin care and comfort for the incontinent resident
- 11.11.37.15 Describe measures to prevent incontinence
- 11.11.38.00 **Perform toileting procedures**
I-11, M-11, R-12
- 11.11.38.01 Identify and demonstrate correct procedure for assisting a resident with a bedpan or fracture pan
- 11.11.38.02 Identify the correct procedure for assisting the resident with using a urinal
- 11.11.38.03 Identify the correct procedure for assisting the resident with using the bedside commode or toilet
- 11.11.39.00 **Measure intake and output**
I-11, M-11, R-12
- 11.11.39.01 Identify what is meant by fluid balance, fluid imbalance, and effect of aging on fluid balance
- 11.11.39.02 Identify the reasons for measuring intake and output. State the abbreviations
- 11.11.39.03 Identify and demonstrate the procedure for measuring and recording fluid intake
- 11.11.39.04 Identify what is meant by the terms: force fluids, restrict fluids and NPO
- 11.11.39.05 Discuss and demonstrate the procedure for measuring output

Common Core

- 11.11.40.00** **Demonstrate knowledge of functions of the bowel
I-11, M-11, R-12**
- 11.11.40.01 Discuss the normal structure and function of the lower intestinal tract
- 11.11.40.02 Identify the terms used for bowel elimination
- 11.11.40.03 Describe the normal and abnormal appearance of feces
- 11.11.40.04 Identify affects of aging on function of the lower intestinal tract
- 11.11.40.05 Identify signs which may indicate that a resident is constipated
- 11.11.40.06 Identify measures which may be part of a resident's care in order to
prevent or relieve constipation
- 11.11.40.07 Identify what is meant by fecal impaction
- 11.11.40.08 Identify symptoms which might indicate that a resident has a fecal
impaction
- 11.11.40.09 Identify causes of fecal impaction in the elderly
- 11.11.40.10 Identify the role of the NA in preventing fecal impaction
- 11.11.40.11 Identify causes of incontinence and measures for caring for the
resident who is incontinent of feces
- 11.11.41.00** **Discuss developmental tasks, stereotype myths, and basic facts and
statistics about the elderly
I-11, M-11, R-12**
- 11.11.41.01 List the developmental tasks associated with the aging process
- 11.11.41.02 List basic facts and statistics about the elderly
- 11.11.41.03 List some of the stereotypes about aging which are prevalent in our
society

Common Core

- 11.11.42.00** **Recognize basic emotional needs of residents**
I-11, M-11, R-12
- 11.11.42.01 Identify basic emotional needs of residents in a LTCF
- 11.11.42.02 Describe ways that the NA can use to meet the emotional needs of the resident
- 11.11.42.03 List ways that the NA can change their own response to the resident's behavior
- 11.11.43.00** **Recognize factors which promote rest and relaxation**
I-11, M-11, R-12
- 11.11.43.01 Discuss factors which influence the residents' sleep
- 11.11.43.02 Identify actions the NA may take to help the resident sleep
- 11.11.44.00** **Recognize sexuality in aging**
I-11, M-11, R-12
- 11.11.44.01 Identify some of the physical changes which may affect sexuality in the aging person
- 11.11.44.02 Identify some of the social aspects of sexual function in the elderly
- 11.11.44.03 Discuss appropriate NA response to perceived sexual advances from a resident
- 11.11.45.00** **Demonstrate knowledge of special needs populations**
I-11, M-11, R-12
- 11.11.45.01 Define mental health
- 11.11.45.02 Identify the general characteristics of persons who are mentally ill
- 11.11.45.03 Define mental retardation
- 11.11.45.04 Identify components of program services for residents who may be mentally retarded

Common Core

- 11.11.45.05 List methods to identify and utilize the resident's strengths as a way to reinforce appropriate behavior or reduce or eliminate inappropriate behavior
- 11.11.45.06 Identify behaviors the NA should use while caring for residents who are mentally retarded or mentally ill
- 11.11.46.00 **Care for the confused or withdrawn resident**
I-11, M-11, R-12
- 11.11.46.01 Identify some of the possible causes of confusion
- 11.11.46.02 Identify symptoms which indicate a resident may be confused
- 11.11.46.03 Identify psychosocial implications of confusion for the resident (how the person feels and interacts with others)
- 11.11.46.04 Identify ways in which some of the causes of confusion may be minimized
- 11.11.46.05 Identify behaviors which may be seen in the person who is withdrawn
- 11.11.46.06 Identify some causes of withdrawn behavior
- 11.11.46.07 Identify acceptable therapeutic interventions for the confused and/or withdrawn resident
- 11.11.46.08 Identify appropriate NA responses to combative behavior
- 11.11.47.00 **Care for the dying resident**
I-11, M-11, R-12
- 11.11.47.01 Identify some of American society's attitudes about death
- 11.11.47.02 Identify the 5 stages of reaction to approaching death. For each, identify behaviors the dying person might demonstrate
- 11.11.47.03 Identify the emotional needs of the resident experiencing death
- 11.11.47.04 Describe responses by the nurse aide to emotional needs of the dying resident

Common Core

- 11.11.47.05 Identify emotions which may be experienced in response to the death of others
- 11.11.47.06 State the importance of and ways to acknowledge the death of a resident in a LTCF
- 11.11.47.07 Identify physical sign of approaching death
- 11.11.47.08 Identify care measures which the NA should provide for the dying resident
- 11.11.47.09 Discuss the recognition and consideration of the family
- 11.11.47.10 Identify the meaning for the term "post-mortem care" and the steps involved in providing post-mortem care
- 11.11.47.11 Identify the impact spiritual beliefs have on the emotional needs of residents
- 11.11.48.00 Prevent complications of immobility
I-11, M-11, R-12
- 11.11.48.01 List the negative effects of immobility on the body
- 11.11.48.02 Describe the activities to be encouraged in order that residents in LTCFs may participate in their own self-care whenever possible
- 11.11.48.03 Identify the purpose, safety precautions and who may assist a resident during range of motion exercises
- 11.11.48.04 Describe the differences between active and passive range of motion
- 11.11.48.05 Identify the procedures used to assist with active and passive ROM exercises for all joints
- 11.11.48.06 Identify measures which help prevent complications of immobility
- 11.11.48.07 Identify and demonstrate body mechanics used in the LTCF
- 11.11.48.08 Identify and demonstrate transfer techniques for dependent residents

Common Core

- 11.11.48.09 Identify and demonstrate appropriate body alignments for residents in the sitting and lying position
- 11.11.49.00 Recognize components of bowel and bladder program
I-11, M-11, R-12**
- 11.11.49.01 Identify the goals of a bowel and bladder program
- 11.11.49.02 Identify factors which go into preparing a bowel/bladder training program
- 11.11.49.03 Identify the steps involved in bowel training
- 11.11.49.04 Identify steps involved in bladder training
- 11.11.50.00 Demonstrate knowledge of prosthetic devices
I-11, AD**
- 11.11.50.01 Describe the purpose and types of prosthetic devices
- 11.11.50.02 Apply prosthetic devices with direction of charge nurse
- 11.11.50.03 Store prosthetic devices appropriately when they are not in use
- 11.11.51.00 Recognize the right to participation in activities, to voice complaints,
and make personal choices
I-11, M-11**
- 11.11.51.01 Identify ways to help the resident be active in family, groups, self-care, and facility sponsored activities
- 11.11.51.02 Describe methods of assisting the resident to vote
- 11.11.51.03 Define the term "personal choices" and state examples of the resident's personal choices
- 11.11.51.04 Discuss ways to enforce facility rules/regulations which govern resident conduct
- 11.11.51.05 Demonstrate techniques to help the resident resolve grievances or complaints

Common Core

- 11.11.51.06 Describe the basic role of the Ohio Ombudsman Program and its relationship to the LTCF
- 11.11.52.00 Recognize the right to privacy
I-11, M-11, R-12
- 11.11.52.01 Describe methods of providing the resident with privacy
- 11.11.53.00 Recognize the right to confidentiality
I-11, M-11, R-12
- 11.11.53.01 Discuss what is meant by and define confidentiality
- 11.11.53.02 State examples of ways to maintain confidentiality
- 11.11.54.00 Identify right to freedom from abuse or unnecessary physical and chemical restraints
I-11, M-11, R-12
- 11.11.54.01 Define abuse, mistreatment and neglect and give examples
- 11.11.54.02 State examples of ways the NA can prevent abuse, mistreatment and neglect
- 11.11.54.03 Identify need/how to report any instances of abuse, mistreatment or neglect
- 11.11.54.04 Define chemical and physical restraint
- 11.11.54.05 Discuss examples of unnecessary physical or chemical restraints
- 11.11.54.06 Discuss ways to eliminate the need for chemical or physical restraint of the resident
- 11.11.55.00 Recognize the right of proper care and security of personal possessions
I-11, M-11, R-12
- 11.11.55.01 Describe ways to ensure the security of the resident's possessions

Recommended Assessment: The State of Ohio establishes the requirements for Ohio's Nurse Aide Training and Competency Evaluation program. Students completing these requirements are qualified to take the exam provided by the Ohio Department of Health. Passing the exam allows the student to work as a "State Tested" Nursing Assistant.

ELECTIVES

Students will concentrate in three of the elective areas listed below. In addition, a required quarter of independent study with a career focus, a mentorship/internship at a worksite or post secondary enrollment is required.

Diagnostic Procedures

- | | |
|-------------|---|
| 11.12.01.00 | Perform basic EKG
I-12, M-AD, R-BD, LL |
| 11.12.01.01 | Demonstrate knowledge of the various aspects and facets of Health Care:
<ul style="list-style-type: none"> *See Unit: Medical Terminology *See Unit: Medical Law & Ethics *See Unit: Career Exploration *See Unit: Infection Control and Hazards Management *See Unit: Safety and Infection Control *See Unit: Employability Skills *See Unit: The Medical Database |
| 11.12.02.00 | Demonstrate knowledge of the circulatory/cardiovascular system
I-11, M-AD, R-BD, LL
<ul style="list-style-type: none"> * See Unit: Anatomy/Physiology - Circulatory System |
| 11.12.03.00 | Perform circulation checks
I-11, M-AD, R-BD, LL |
| 11.12.03.01 | Identify pulse sites |
| 11.12.03.02 | Take vital signs |
| 11.12.03.03 | Observe and report s/s of impaired circulation |
| 11.12.03.04 | Use doppler |
| 11.12.04.00 | Perform the EKG recording
I-12, M-AD, R-BD, LL |
| 11.12.04.01 | Identify procedure changes with infants, amputees, dressings, etc. |
| 11.12.04.02 | Demonstrate knowledge of equipment maintenance |
| 11.12.04.03 | Identify cardiovascular pharmacology-drugs affecting EKG recording |

Electives

- 11.12.04.04 Perform a 12 lead EKG recording
- 11.12.04.05 Mount a 12 lead EKG
- 11.12.04.06 Clean EKG equipment
- 11.12.04.07 Recognize basic EKG rhythms and artifacts
- 11.12.04.08 Demonstrate holter monitor application
- 11.12.05.00 Demonstrate knowledge of cardiac pathology
I-11, M-AD, R-BD, LL
* See Unit: Anatomy/Physiology - Circulatory System
- 11.12.06.00 Demonstrate knowledge of dysrhythmia basics
I-12, M-AD, R-BD, LL
- 11.12.06.01 Identify calculations of heart rate P-R intervals, QRS duration
- 11.12.06.02 Identify basics of dysrhythmia-sinus rhythm, bradycardia, tachycardia, PVC's, A-V block, etc.
- 11.12.07.00 Demonstrate knowledge of additional cardiac procedures
I-12, M-AD, R-BD, LL
- 11.12.07.01 Explain Stress Testing
- 11.12.07.02 Explain Ambulatory EKG
- 11.12.07.03 Explain Echocardiography
- 11.12.07.04 Explain angiography
- 11.12.07.05 Explain Nuclear Medicine
- 11.12.07.06 Explain PTCA (percutaneous transluminal coronary angioplasty)
- 11.12.08.00 Perform CPR
I-11, M-11
* See competency 11.10.01

Electives

- 11.12.09.00** **Assist with radiological procedures**
I-12, M-AD, R-BD, LL
- 11.12.09.01 Prepare and instruct patients on procedures
- 11.12.09.02 Develop X-rays
- 11.12.09.03 Identify and follow Occupational Safety and Health Administration (OSHA) regulations
- 11.12.10.00** **Assist with pulmonary function testing**
I-12, M-AD, R-BD, LL
- 11.12.10.01 Perform spirometry tests
- 11.12.10.02 Set up and administer oxygen
- 11.12.10.03 Administer aerosol therapy
- 11.12.10.04 Explain pulse oximetry
- 11.12.11.00** **Assist with allergy testing**
I-12, M-AD, R-BD, LL
- 11.12.11.01 Prepare tray
- 11.12.11.02 Perform scratch test
- 11.12.11.03 Perform patch test
- 11.12.12.00** **Measure and record visual acuity using the Snellen chart**
I-12, M-12
- 11.12.13.00** **Measure and record visual acuity using the Jaegar chart**
I-12, M-12
- 11.12.14.00** **Measure and record color vision using the Ishahara chart**
I-12, M-12
- 11.12.15.00** **Measure hearing with the audiometer**
I-12, M-12

Electives

Laboratory Procedures

- 11.13.01.00** **Demonstrate knowledge of infection control and laboratory safety**
I-12, M-AD, R-BD, LL
- 11.13.01.01 Identify lab safety policies and procedures
- 11.13.01.02 Discuss modes of disease transmission
- 11.13.01.03 Explain biohazards
- 11.13.01.04 Identify phlebotomy safety procedures
- 11.13.01.05 Demonstrate universal precautions
- 11.13.01.06 Identify OSHA standards and regulations
- 11.13.01.07 Identify CLIA standards and procedures
- 11.13.01.08 Demonstrate knowledge of infection control
- 11.13.01.09 Demonstrate isolation methods
- 11.13.01.10 Discuss first aid procedure for fainting
- 11.13.02.00** **Perform drug screen testing**
I-12, M-AD, R-BD, LL
- 11.13.02.01 Demonstrate safe use of equipment
- 11.13.02.02 Read and record results properly
- 11.13.02.03 Discuss chain of command
- 11.13.03.00** **Perform tuberculosis testing**
I-12, M-AD, R-BD, LL
- 11.13.03.01 Administer and interpret Tine test
- 11.13.03.02 Administer and interpret Mantoux test

Electives

- 11.13.04.00** **Assist with specimen collection and handling**
I-12, M-AD, R-BD, LL
- 11.13.04.01 Maintain laboratory supplies
- 11.13.04.02 Obtain specimens for cultures (e.g. body fluids)
- 11.13.04.03 Identify specimens
- 11.13.04.04 Evaluate suitability of specimen
- 11.13.04.05 Culture, grow and transfer specimen
- 11.13.04.06 Transport bacteria to outside lab
- 11.13.04.07 Collect and handle sputum
- 11.13.04.08 Collect and handle urine (e.g. clean catch and sterile specimens, 24
hour urine, three jar test)
- 11.13.04.09 Collect and handle stool specimen (e.g. for occult blood, ovum and
parasites)
- 11.13.04.10 Use sterile technique when performing a culture
- 11.13.05.00** **Demonstrate proper technique to perform venipuncture and capillary**
puncture
I-12, M-AD, R-BD, LL
- 11.13.05.01 Identify collection equipment and supplies
- 11.13.05.02 Identify interfering substances
- 11.13.05.03 Identify additives
- 11.13.05.04 Identify special precautions
- 11.13.05.05 Identify puncture sites
- 11.13.05.06 Identify sterile and antiseptic site
- 11.13.05.07 Perform preparation of site

Electives

- 11.13.05.08 Perform capillary puncture with lancet
- 11.13.05.09 Perform capillary puncture with autolet
- 11.13.05.10 Identify effect of tourniquet, heat, hand squeezing on collection
- 11.13.05.11 Perform needle insertion and withdrawal
- 11.13.05.12 Identify order of draw using a vacutainer and a syringe
- 11.13.05.13 Perform venipuncture on manikin arm using syringe
- 11.13.05.14 Perform venipuncture on manikin arm using vacutainer
- 11.13.05.15 Demonstrate patient identification procedures
- 11.13.05.16 Label specimen properly when collected
- 11.13.05.17 Demonstrate requisitioning
- 11.13.05.18 Process specimen
- 11.13.05.19 Transport specimen
- 11.13.05.20 Identify legal implications
- 11.13.05.21 Identify time constraints
- 11.13.06.00 **Perform microbiological identifications
I-12, M-AD, R-BD, LL**
- 11.13.06.01 Use the microscope
- 11.13.06.02 Obtain a throat culture
- 11.13.06.03 Identify bacteria using differential agar
- 11.13.06.04 Identify bacteria using gram stains

Electives

- 11.13.07.00** **Perform routine urinalysis and urine diagnostics**
I-12, M-AD, R-BD, LL
- 11.13.07.01 Perform complete urinalysis (microscopic and chemical)
- 11.13.07.02 Perform tests for pregnancy
- 11.13.07.03 Perform chemical urinalysis
- 11.13.08.00** **Perform manual and automated test of complete blood count (CBC)**
I-12, M-AD, R-BD, LL
- 11.13.08.01 Perform hematocrit (Hct)
- 11.13.08.02 Perform hemoglobin determination (hgB)
- 11.13.08.03 Perform red blood cell count (RBC)
- 11.13.08.04 Perform white blood cell count (WBC)
- 11.13.08.05 Perform white blood cell differential (Diff)
- 11.13.08.06 Perform erythrocyte sedimentation rate (ESR)
- 11.13.09.00** **Perform serological tests**
I-12, M-AD, R-BD, LL
- 11.13.09.01 Prepare serum
- 11.13.09.02 Perform serum blood chemistries
- 11.13.09.03 Perform ABO and Rh typing according to CLIA regulations
- 11.13.09.04 Perform monospot test
- 11.13.09.05 Perform serum pregnancy test (HCG)

Laboratory Technology

- 11.14.01.00** **Perform urinalysis procedures**
- 11.14.01.01 Describe proper urine collection and preservation methods

Electives

- 11.14.01.02 Perform a physical examination of urine
- 11.14.01.03 Perform a chemical examination of urine
- 11.14.01.04 Identify urine sediment
- 11.14.01.05 Perform a microscopic analysis of urine sediment
- 11.14.01.06 Perform tablet tests on urine samples to determine presence of glucose acetone
- 11.14.01.07 Perform urine pregnancy tests
- 11.14.01.08 Perform drug screens on urine samples using the On-Trak test kit

- 11.14.02.00 Perform hematology procedures
- 11.14.02.01 Perform a manual hemoglobin
- 11.14.02.02 Perform a micro-hematocrit
- 11.14.02.03 Perform and calculate blood cell counts using a hemacytometer
- 11.14.02.04 Perform red and white blood cell counts using the unopette system
- 11.14.02.05 Make and stain a blood smear
- 11.14.02.06 Perform a white blood cell differential count using normal healthy cells
- 11.14.02.07 Perform an erythrocyte sedimentation rate (ESR)
- 11.14.02.08 Operate an instrument capable of analyzing blood cell counts, such as a QBC II system

- 11.14.03.00 Perform biochemistry procedures
- 11.14.03.01 Operate desktop chemistry instruments as are used in a physician's office laboratory

Electives

- 11.14.03.02 Perform chemistry tests most frequently performed in small laboratories
- 11.14.03.03 Perform clinical chemistry calculations
- 11.14.03.04 Operate a chemistry instrument integrated with a laboratory information system
- 11.14.03.05 Calibrate chemistry instruments
- 11.14.03.06 Perform quality control procedures
- 11.14.03.07 Plot control results on a graph and interpret graphed results
- 11.14.03.08 Perform simple laboratory mathematical calculations
- 11.14.03.09 Perform measurements using the metric system
- 11.14.04.00 Perform immunology procedures
- 11.14.04.01 Perform ABO blood types
- 11.14.04.02 Perform RH blood types
- 11.14.04.03 Perform slide tests for infectious mononucleosis
- 11.14.04.04 Perform rapid plasma reagin (RPR) test for syphilis
- 11.14.04.05 Perform slide tests for rheumatoid arthritis
- 11.14.05.00 Perform microbiology procedures
- 11.14.05.01 Operate a binocular microscope
- 11.14.05.02 Identify stained bacteria
- 11.14.05.03 Make a bacteriological smear
- 11.14.05.04 Perform and interpret gram stains

Electives

- 11.14.05.05 Transfer bacteria from one culture medium to another
- 11.14.05.06 Inoculate and incubate culture media
- 11.14.05.07 Collect throat and urine specimens for bacterial culture
- 11.14.05.08 Perform a rapid test for Group A Streptococcus
- 11.14.05.09 Identify bacteria using differential culture media, biochemistry tests and gram stains

- 11.14.06.00 **Perform quality control procedures**
- 11.14.06.01 Explain the importance of quality control in the laboratory
- 11.14.06.02 Establish a quality assurance program for the operation of laboratory equipment
- 11.14.06.03 Perform calibration of laboratory instruments
- 11.14.06.04 Perform quality control testing for all laboratory procedures performed
- 11.14.06.05 Maintain records of control results
- 11.14.06.06 Use graph techniques to display quality control results
- 11.14.06.07 Store quality results on disk or on tape

- 11.14.07.00 **Perform specimen processing procedures**
- 11.14.07.01 Complete a daily log of specimens received
- 11.14.07.02 Process blood and body fluids
- 11.14.07.03 Centrifuge blood samples and separate serum/plasma
- 11.14.07.04 Label all transfer tubes properly and completely
- 11.14.07.05 Prepare specimens for shipment to a reference laboratory
- 11.14.07.06 Instruct patients on how to properly collect laboratory specimens

Electives

- 11.14.08.00 Perform cardiopulmonary resuscitation (CPR)
- 11.14.08.01 Obtain and maintain CPR certification
- 11.14.08.02 Administer mouth-to-mouth rescue breathing
- 11.14.08.03 Administer CPR to infants and children
- 11.14.08.04 Administer CPR to adults
- 11.14.08.05 Administer care for obstructed airways for infants, children, and adults

- 11.14.09.00 Perform first aid procedures
- 11.14.09.01 Recognize signs and symptoms in a patient who is about to faint
- 11.14.09.02 Perform first aid measures for the fainting or nauseous patient
- 11.14.09.03 React to a patient who has a petit mal or grand mal seizure
- 11.14.09.04 Administer first aid to control bleeding

- 11.14.10.00 Perform electrocardiograms and measure vital signs
- 11.14.10.01 Perform and mount a 12 lead electrocardiogram
- 11.14.10.02 Measure and record oral temperature
- 11.14.10.03 Measure and record radial and jugular pulse rates
- 11.14.10.04 Count and record respiration
- 11.14.10.05 Measure and record blood pressure using proper cuff size

- 11.14.11.00 Maintain personal safety and hygiene
- 11.14.11.01 Demonstrate proper handwashing technique
- 11.14.11.02 Maintain clean uniforms

Electives

- 11.14.11.03 Practice proper care and grooming of hair and nails for health care professionals
- 11.14.11.04 Practice safe pipetting techniques
- 11.14.11.05 Dispose of contaminated equipment
- 11.14.11.06 Clean spills and dispose of broken glass
- 11.14.11.07 Operate an autoclave
- 11.14.11.08 Maintain a clean workplace
- 11.14.11.09 Perform sterilization procedures in the laboratory

- 11.14.12.00 Comply with OSHA's Bloodborne Pathogen Rule of June 1992
- 11.14.12.01 Comply with all safety measures discussed in the Bloodborne Pathogen Rule
- 11.14.12.02 Discuss safety program established for the laboratory
- 11.14.12.03 Obtain Hepatitis B vaccinations
- 11.14.12.04 Wear uniform and personal protective clothing in the laboratory

- 11.14.13.00 Demonstrate isolation procedures
- 11.14.13.01 Identify the different types of isolation
- 11.14.13.02 Demonstrate procedures for disposal of soiled or contaminated materials
- 11.14.13.03 Demonstrate general principles of asepsis
- 11.14.13.04 Discuss nosocomial infections and their implications to all patients
- 11.14.13.05 List and perform protocol for obtaining a sterile site

Electives

- 11.14.14.00 Perform biochemistry procedure
- 11.14.14.01 Operate desktop chemistry instruments as are used in a physician's office laboratory (J&J DT 60, Vision, Reflotron, Cholestech, Serolyzer)
- 11.14.14.02 Perform chemistry tests most frequently performed in small laboratories (lipids, glucose, K+)
- 11.14.14.03 Perform clinical chemistry calculations (VLDL, LDL, Cholesterol/HDL ratio)
- 11.14.14.04 Operate a chemistry instrument integrated with a laboratory information system
- 11.14.14.05 Calibrate chemistry instruments
- 11.14.14.06 Perform quality control procedures
- 11.14.14.07 Plot control results on a graph and interpret graphed results
- 11.14.14.08 Perform measurements using the metric system
- 11.14.15.00 Perform immunology procedures
- 11.14.15.01 Perform ABO blood types
- 11.14.15.02 Perform RH blood types
- 11.14.15.03 Perform slide tests for infectious mononucleosis
- 11.14.15.04 Perform rapid plasma reagin (RPR) test for syphilis
- 11.14.15.05 Perform slide tests for rheumatoid arthritis
- 11.14.16.00 Perform microbiology procedures
- 11.14.16.01 Operate a binocular microscope
- 11.14.16.02 Perform and interpret gram stains

Electives

- 11.14.16.03 Transfer bacteria from one culture medium to another
- 11.14.16.04 Inoculate and incubate culture media
- 11.14.16.05 Collect throat and urine specimens for bacterial culture
- 11.14.16.06 Perform a rapid test for Group A Streptococcus
- 11.14.16.07 Identify bacteria using differential culture media, biochemistry tests and gram stains

- 11.14.17.00 **Perform quality control procedures**
- 11.14.17.01 Explain the importance of quality control in the laboratory
- 11.14.17.02 Establish a quality assurance program for the operation of laboratory equipment
- 11.14.17.03 Perform calibration of laboratory instruments
- 11.14.17.04 Perform quality control testing for all laboratory procedures performed
- 11.14.17.05 Maintain records of control results
- 11.14.17.06 Use graph techniques to display quality control results
- 11.14.17.07 Store quality control results on disk or on tape

- 11.14.18.00 **Perform specimen processing procedures**
- 11.14.18.01 Complete a daily log of specimens received
- 11.14.18.02 Process blood and body fluids
- 11.14.18.03 Centrifuge blood samples and separate serum/plasma
- 11.14.18.04 Label all transfer tubes properly and completely
- 11.14.18.05 Prepare specimens for shipment to a reference laboratory

Electives

- 11.14.18.06 Instruct patients on how to properly collect laboratory specimens
- 11.14.19.00 **Comply with CDC, NCCLS, CAP, ASCP and OSHA**
- 11.14.19.01 Practice universal precautions when handling potentially hazardous specimens
- 11.14.19.02 Utilize safety shields, eye protection, and gloves when exposing body fluids
- 11.14.19.03 Wear personal protective clothing in the laboratory
- 11.14.19.04 Dispose of sharps correctly
- 11.14.19.05 Demonstrate proper handwashing techniques
- 11.14.19.06 Identify and label biohazardous specimens

Phlebotomy Technology

(Mult 114, Mult 115)

- 11.15.01.00 Identify collection equipment, reagents and recite interfering factors that can be implicated in blood collections
- 11.15.01.01 List and describe equipment needed to collect blood specimens
- 11.15.01.02 Explain precautions and equipment needed to collect blood from a newborn infant
- 11.15.01.03 Identify anticoagulants, preservatives, and gels the vacuum tube color-codes
- 11.15.01.04 Evaluate anticoagulants, preservatives, and gels used in blood collection
- 11.15.01.05 Describe laboratory specimens and the phlebotomist's role in collecting, transporting these specimens to the laboratory
- 11.15.01.06 Describe substances that can interfere in the analysis of blood analytes

Electives

- 11.15.02.00 Requisition, process and transport specimens**
- 11.15.02.01 List information required on laboratory requisition or computer order entry
- 11.15.02.02 Operate data processing and computer systems utilized in the laboratory
- 11.15.02.03 Describe the importance of adhering to time constraints and temperature needs
- 11.15.02.04 Discuss precautions for verbal test orders and verbal reporting
- 11.15.02.05 Describe routine and special procedures for transporting and processing specimens
- 11.15.02.06 Describe the use of transport and/or communication systems for specimens and data
- 11.15.02.07 Discuss routine "log-in" sheets and as manual back-up for computer systems
- 11.15.02.08 Describe specimen accession, identification and retention systems
- 11.15.02.09 Inspect and evaluate specimen suitability for the analysis requested
- 11.15.02.10 Centrifuge and aliquot specimen for distribution to the appropriate laboratory section
- 11.15.02.11 Prepare smears, droplets or mounts of the specimen for analysis
- 11.15.02.12 Evaluate results of quality control techniques in specimen collection
- 11.15.03.00 Perform micropuncture**
- 11.15.03.01 Identify equipment used in micropuncture collections
- 11.15.03.02 Identify equipment used for infant and neonatal collection
- 11.15.03.03 Determine the optimal sites for skin punctures on infants, children and adults

Electives

- 11.15.03.04 **Decontaminate puncture sites**
- 11.15.03.05 **Collect a blood sample using the unopette system**
- 11.15.03.06 **Collect a blood specimen using capillary tubes**

- 11.15.04.00 **Perform venipuncture**
 - 11.15.04.01 **Demonstrate protocol for patient identification**
 - 11.15.04.02 **Perform a venipuncture using the vacuum system**
 - 11.15.04.03 **Perform a venipuncture using the syringe system**
 - 11.15.04.04 **Perform a venipuncture using a butterfly**
 - 11.15.04.05 **Collect blood using multiple draw technique in the correct order of draw**

- 11.15.05.00 **Perform special collection procedures**
 - 11.15.05.01 **Collect blood cultures**
 - 11.15.05.02 **Set up and perform a glucose tolerance test**
 - 11.15.05.03 **Describe procedure for collection of blood bank specimens**
 - 11.15.05.04 **Describe procedure for collection of timed specimens**
 - 11.15.05.05 **Describe procedure for collection and transport of specimens requiring special handling**

- 11.15.06.00 **Perform difficult draw procedures**
 - 11.15.06.01 **Describe unusual patient circumstances such as bruised puncture sites, IV drips, and arterial draws and how to cope with them**
 - 11.15.06.02 **Describe complications associated with blood collections and how to overcome each**

Electives

- 11.15.06.03 Discuss reasons for having to collect blood from the hand, wrist or ankle
- 11.15.06.04 Describe the Allen test and the procedure for an arterial draw
- 11.15.07.00 **Perform quality control procedure**
- 11.15.07.01 Distinguish/perform quality control measures when collecting blood specimens
- 11.15.07.02 Utilize safety equipment and procedures in specimen collection
- 11.15.07.03 Document procedures for "common" accidents occurring during specimen collection
- 11.15.07.04 Identify patients and correctly label their specimens
- 11.15.07.05 Determine when to perform recollections
- 11.15.07.06 Determine when to reject a specimen
- 11.15.08.00 **Perform point of care testing**
- 11.15.08.01 Perform glucose testing at the bedside
- 11.15.08.02 Perform modified Duke and Ivy bleeding time using a surgicutt
- 11.15.08.03 Perform bedside hemoglobin testing
- 11.15.08.04 Perform or observe sweat chloride testing
- 11.15.09.00 **Demonstrate knowledge of infection control and observe all safety precautions**
- 11.15.09.01 Identify policies and procedures for maintaining laboratory safety
- 11.15.09.02 Discuss modes of transmission of infection and methods for prevention
- 11.15.09.03 Identify and properly label biohazardous specimens

Electives

- 11.15.09.04 Describe safety measures that are followed when collecting blood specimens
- 11.15.09.05 Discuss in detail the universal precautions outlined by Center for Disease Control and OSHA
- 11.15.09.06 Discuss and perform proper infection control techniques, such as hand washing, gowning, gloving, masking and double-bagging
- 11.15.09.07 Define and discuss the term nosocomial infection
- 11.15.09.08 Describe appropriate procedures for disposing of used or contaminated needles

- 11.15.10.00 **Perform a phlebotomy internship at a health care facility**
- 11.15.10.01 Complete the prerequisites for eligibility to participate in the internship
- 11.15.10.02 Complete a minimum of 120-160 clinical hours
- 11.15.10.03 Complete 200 unassisted multiple draw venipuncture
- 11.15.10.04 Complete 200 unassisted successful micropuncture or finger sticks
- 11.15.10.05 Participate in laboratory operations including filing, processing, accessioning, centrifugation, and computer operations
- 11.15.10.06 Devise and implement appropriate methods of workload organization
- 11.15.10.07 Adhere to the standards of ethics and professionalism
- 11.15.10.08 Adhere to all safety regulations as established by the clinical site
- 11.15.10.09 Participate in community health fairs to obtain necessary numbers of micropuncture

Electives

- 11.15.11.00 Perform/observe pediatric and neonatal services**
- 11.15.11.01 Observe or perform specimen collection procedures on neonates
- 11.15.11.02 Observe or perform specimen collection procedures from infants in neonatal ICU
- 11.15.11.03 Observe or perform specimen collection procedures on pediatric patients
- 11.15.12.00 Perform phlebotomy collections in a variety of settings**
- 11.15.12.01 Observe or perform specimen collection procedures in the Emergency Room
- 11.15.12.02 Observe or perform specimen collection procedures in each of the intensive care units (ICU) listed: Coronary (CICU), Medical (MICU), and surgical (SICU)
- 11.15.12.03 Perform specimen collection procedures on the maternity/obstetrics patients
- 11.15.12.04 Perform specimen collection procedures on medical and surgical patients
- 11.15.12.05 Perform specimen collection procedures on geriatric patients
- 11.15.12.06 Perform specimen collection procedures on psychiatric patients
- 11.15.13.00 Perform special collection procedures**
- 11.15.13.01 Observe arterial blood gas collections
- 11.15.13.02 Collect specimens requiring special transport
- 11.15.13.03 Collect specimens from patients in isolation
- 11.15.13.04 Collect blood cultures
- 11.15.13.05 Conduct glucose tolerance test

Electives

- 11.15.13.06 Collect timed specimens including post prandial glucose, peak and trough antibiotic/drug assays
- 11.15.13.07 Perform blood bank specimen collection procedures
- 11.15.14.00 Perform difficult draw procedures
- 11.15.14.01 Observe and perform line draws such as heparin lock, CVC, etc.
- 11.15.14.02 Collect specimens using a syringe and a butterfly
- 11.15.14.03 Observe or perform capillary blood gas collection
- 11.15.14.04 Observe or perform hand/wrist and ankle/foot collections
- 11.15.14.05 Observe or perform NIDA collection
- 11.15.14.06 Observe or perform specimen collection procedures on patients receiving IV therapy, blood transfusions, dialysis therapy
- 11.15.15.00 Take a national phlebotomy registry examination
- 11.15.15.01 Complete eligibility requirements to take a national phlebotomy registry examination
- 11.15.15.02 Complete application process to take the phlebotomy registry examination
- 11.15.15.03 Sit for a national phlebotomy examination

Recommended Assessment: National Exam of International Academy of Phlebotomy Scientists

Electives

Sterilization and Disinfection-Minor Surgery and Instrumentation

- 11.16.01.00 Demonstrate knowledge of sterilization and disinfection
I-11, R-12, M-AD, LL**
- 11.16.01.01 State the purpose of sanitization
- 11.16.01.02 Explain the principle involved in sterilizing materials in the autoclave, and explain why the length of time necessary for autoclaving varies according to type of article being sterilized
- 11.16.01.03 List three principles that should be followed when the autoclave is loaded
- 11.16.01.04 State the qualities of good wrapper for use in the autoclaving process
- 11.16.01.05 Explain the function of sterilization indicators, and list two types of indicators that may be used
- 11.16.01.06 Explain how incomplete sterilization can occur when using the autoclave
- 11.16.01.07 List the materials that are best sterilized in a dry heat oven
- 11.16.01.08 Identify four guidelines for operating the dry heat oven
- 11.16.01.09 Identify the steps for preparing infectious waste for disposal by infectious waste service
- 11.16.01.10 List four types of disinfectants commonly used in medical practice and explain basic guidelines for using chemical disinfectant
- 11.16.02.00 Demonstrate knowledge of surgical asepsis
I-12, M-AD, R-BD, LL**
- 11.16.02.01 Identify four types of procedures that require the use of surgical asepsis
- 11.16.02.02 List five guidelines that should be observed during a sterile procedure in order to maintain surgical asepsis

Electives

- 11.16.03.00 Identify instruments used in minor surgery
I-12, M-AD, R-BD, LL
- 11.16.03.01 State the function of transfer forceps
- 11.16.03.02 List four guidelines for using transfer forceps
- 11.16.03.03 Identify and explain the uses of the scalpel
- 11.16.03.04 Identify and explain the uses of the operating scissor
- 11.16.03.05 Identify and explain the uses of the suture scissor
- 11.16.03.06 Identify and explain the uses of the bandage scissor
- 11.16.03.07 Identify and explain the uses of the dissecting scissor
- 11.16.03.08 Identify and explain the uses of the thumb forcep
- 11.16.03.09 Identify and explain the uses of the splinter forcep
- 11.16.03.10 Identify and explain the uses of the dressing forcep
- 11.16.03.11 Identify and explain the uses of the tissue forcep
- 11.16.03.12 Identify and explain the uses of the mosquito hemostat
- 11.16.03.13 Identify and explain the uses of the straight hemostat
- 11.16.03.14 Identify and explain the uses of the sponge forceps
- 11.16.03.15 Identify and explain the uses of the hemostatic forceps
- 11.16.03.16 Identify and explain the uses of the needle holder
- 11.16.03.17 Identify and explain the uses of the towel clamp
- 11.16.03.18 Identify and explain the uses of the retractor
- 11.16.03.19 Identify and explain the uses of the probe
- 11.16.03.20 Identify and explain the uses of the vaginal speculum

Electives

- 11.16.03.21 Identify and explain the uses of the uterine dressing forcep
- 11.16.03.22 Identify and explain the uses of the uterine curette
- 11.16.03.23 Identify and explain the uses of the uterine sound
- 11.16.03.24 Identify and explain the uses of the uterine tenaculum
- 11.16.04.00 **Demonstrate knowledge of the types of wounds**
I-11, R-12, M-AD
- 11.16.04.01 Explain the difference between a closed and an open wound
- 11.16.04.02 Give an example of one type of closed wound
- 11.16.04.03 Give an example of four types of open wounds
- 11.16.04.04 Explain the healing process
- 11.16.05.00 **Demonstrate knowledge of sutures**
I-12, M-AD, R-BD, LL
- 11.16.05.01 Explain the method of measuring the diameter of suture material
- 11.16.05.02 Describe the different types of sutures
- 11.16.05.03 Categorize suturing needles according to their type of point and shape
- 11.16.06.00 **Demonstrate knowledge of assisting with minor surgery**
I-12, M-AD, R-BD, LL
- 11.16.06.01 Explain the purpose of and the procedure for the Sebaceous cyst removal
- 11.16.06.02 Explain the purpose of and the procedure for the incision and drainage of localized infection
- 11.16.06.03 Explain the purpose of and the procedure for the needle biopsy
- 11.16.06.04 Explain the purpose of and the procedure for the ingrown toenail removal
- 11.16.06.05 Explain the purpose of and the procedure for the Colposcopy removal

Electives

- 11.16.06.06 Explain the purpose of and the procedure for the Cervical Punch biopsy
- 11.16.06.07 Explain the purpose of and the procedure for the Cryosurgery
- 11.16.06.08 Explain the principles underlying each step in minor surgery
- 11.16.07.00 **Demonstrate knowledge of sterile dressing change
I-11, R-12, M-AD, R-BD, LL**
- 11.16.07.01 List the functions of a dressing
- 11.16.07.02 State the functions of a bandage and list the guidelines that should be observed when applying a bandage
- 11.16.07.03 Identify the common types of bandages
- 11.16.07.04 Explain the use of tubular gauze

Intro to Medications/Pharmacology

- 11.17.01.00 **Order and store medications
I-12, M-AD, R-BD, LL**
- 11.17.01.01 Check inventory stock
- 11.17.01.02 Contact supplier
- 11.17.01.03 Rotate stock
- 11.17.01.04 Process order forms and invoice according to Drug Enforcement Agency (DEA) guidelines
- 11.17.01.05 Store medications properly
- 11.17.01.06 Prepare expired medication for disposal
- 11.17.01.07 Dispose of medications properly complying with government regulations

Electives

- 11.17.02.00 Calculate dosage according to physician's orders
I-12, M-AD, R-BD, LL**
- 11.17.02.01 Use Physician's Desk Reference (PDR) and Facts Comparisons
- 11.17.02.02 Calculate oral dosage
- 11.17.02.03 Calculate parenteral dosage
- 11.17.02.04 Calculate pediatric dosage
- 11.17.02.05 Calculate intravenous dosage and rate of flow
- 11.17.03.00 Obtain and administer medications according to physician's orders
I-12, M-AD, R-BD, LL**
- 11.17.03.01 Identify patient
- 11.17.03.02 Verify patient allergies
- 11.17.03.03 Use reference materials
- 11.17.03.04 Verify accuracy of medical order
- 11.17.03.05 Calculate dosages
- 11.17.03.06 Prepare and administer oral medications
- 11.17.03.07 Identify correct anatomical sites
- 11.17.03.08 Administer medications
- 11.17.03.09 Document medication administration
- 11.17.03.10 Document patient response to medications
- 11.17.04.00 Evaluate response to medication
I-12, M-AD, R-BD, LL**
- 11.17.04.01 Identify possible adverse reactions to medications
- 11.17.04.02 Assess patient/client reaction to medications

Electives

- 11.17.04.03 **Report adverse reactions to appropriate sources**
- 11.17.04.04 **Document patient/client response to medication**
- 11.17.05.00 **Dispense and instruct patients on use of medications**
 I-12, M-AD, R-BD, LL
- 11.17.05.01 **Provide written instructions**
- 11.17.05.02 **Demonstrate use of medications (e.g., side effects, adverse effects,**
 interactions with other medications)
- 11.17.05.03 **Prepare written prescription for physician's signature**
- 11.17.05.04 **Develop and maintain standing orders according to physician's**
 protocol (e.g., prescription refill)
- 11.17.06.00 **Record medications**
 I-12, M-AD, R-BD, LL
- 11.17.06.01 **Log schedule of drugs on patient's chart**
- 11.17.06.02 **Log schedule of drugs on medication log**
- 11.17.06.03 **Log control/lot number and expiration date**
- 11.17.06.04 **Obtain countersignature of physician**

General Office Procedures

- 11.18.01.00 **Maintain medical records**
 I-12, M-12, R-AD, LL
- 11.18.01.01 **File information alphabetically or numerically according to office**
 protocol
- 11.18.01.02 **Retrieve patient record from file**
- 11.18.01.03 **Prepare cross-reference file**
- 11.18.01.04 **Process and file incoming medical reports**

Electives

- 11.18.02.00** Explain office procedures and protocol
I-12, M-12, R-AD, LL
- 11.18.02.01 Prepare, edit, and distribute office procedure brochure
- 11.18.02.02 Advise patient of office hours
- 11.18.02.03 Advise patient of billing structure
- 11.18.02.04 Review patient bill of rights
- 11.18.03.00** Operate computer
I-11, M-12, R-AD/BD, LL
- 11.18.04.00** Operate office equipment
I-12, M-12, R-AD/BD, LL
- 11.18.04.01 Operate transcriber
- 11.18.04.02 Operate calculator
- 11.18.04.03 Operate checkwriter
- 11.18.04.04 Operate typewriter
- 11.18.04.05 Operate copy machine
- 11.18.04.06 Operate postage meter
- 11.18.04.07 Operate fax machine
- 11.18.04.08 Operate multiline telephone system
- 11.18.04.09 Operate credit card impresser
- 11.18.05.00** Write and process office communications
I-12, M-12, R-AD/BD, LL
- 11.18.05.01 Compose and type business correspondence
- 11.18.05.02 Type letters from dictating machine
- 11.18.05.03 Compose and keyboard interoffice memos

Electives

- 11.18.05.04 Complete appropriate consent forms
- 11.18.05.05 Address envelopes
- 11.18.05.06 Process incoming mail
- 11.18.06.00 Open and close office
I-12, M-WS, R-AD/BD, LL
- 11.18.06.01 Check for safety hazards
- 11.18.06.02 Maintain environmental service
- 11.18.06.03 Pull patients charts
- 11.18.06.04 Check examining rooms for cleanliness and supplies
- 11.18.06.05 File completed records in locked cabinets
- 11.18.06.06 Place money in safe
- 11.18.06.07 Activate alarm system
- 11.18.06.08 Secure office equipment
- 11.18.06.09 Secure and lock doors
- 11.18.07.00 Demonstrate telephone techniques according to office protocol
I-12, M-WS, R-AD/BD, LL
- 11.18.07.01 Receive calls
- 11.18.07.02 Apply oral communication skills
- 11.18.07.03 Receive, evaluate and record telephone messages
- 11.18.07.04 Write legibly
- 11.18.07.05 Obtain and record messages from recording device
- 11.18.07.06 Obtain and record messages from answering service

Electives

- 11.18.07.07 Screen calls
- 11.18.07.08 Transfer calls
- 11.18.07.09 Obtain information for doctor to return calls
- 11.18.07.10 Handle emergency calls
- 11.18.07.11 Make arrangements for patient's admission to hospital
- 11.18.07.12 Make referrals
- 11.18.07.13 Phone new and refill prescriptions to pharmacy
- 11.18.08.00 Schedule appointments according to office protocol
I-12, M-WS, R-AD/BD, LL
- 11.18.08.01 Write appointments legibly
- 11.18.08.02 Prepare appointments calendar
- 11.18.08.03 Record appointments
- 11.18.08.04 Prepare appointment cards
- 11.18.08.05 Maintain recall system
- 11.18.08.06 Confirm appointments
- 11.18.08.07 Make referral appointments for patients
- 11.18.09.00 Prepare patient chart for office visit according to office protocol
I-12, M-WS, R-AD/BD, LL
- 11.18.09.01 Obtain preliminary information
- 11.18.09.02 Prepare folder
- 11.18.09.03 Prepare charge slip

Electives

- 11.18.10.00 Calculate charges on charge slip according to office protocol I-12, M-WS, R-AD/BD, LL
- 11.18.10.01 Apply mathematical skills
- 11.18.10.02 Itemize fee for each service rendered (e.g., using superbill, pegboard, computer statement)
- 11.18.10.03 Operate calculator
- 11.18.11.00 Maintain administrative office supplies according to office protocol I-12, M-WS, R-AD/BD
- 11.18.11.01 Inventory office supplies
- 11.18.11.02 Prepare purchase requisitions
- 11.18.11.03 Order office supplies
- 11.18.11.04 Receive office supplies
- 11.18.11.05 Store office supplies
- 11.18.12.00 Maintain patient accounts according to office protocol I-12, M-AD/BD
- 11.18.12.01 Apply mathematical skills
- 11.18.12.02 Apply basic bookkeeping fundamentals
- 11.18.12.03 Prepare ledger
- 11.18.12.04 Record charges and credits
- 11.18.12.05 Total charges using calculator
- 11.18.12.06 Interpret and explain doctor's fees
- 11.18.12.07 Compose itemized statement
- 11.18.12.08 Compose collection letter
- 11.18.12.09 Track accounts receivable and prepare aging reports

Electives

Patient Care Skills

(Multi 126)

- 11.19.01.00** **Demonstrate knowledge of patient care skills in relationship to the nursing profession**
I-12, M-12, LL
- 11.19.01.01 Compare jobs description of PCA to long term care NA
- 11.19.01.02 Recognize differences between acute care/chronic care
- 11.19.01.03 Respect lines of authority as shown by an organizational chart
- 11.19.01.04 Function under standards of care as stated by Ohio Board of Nursing
- 11.19.02.00** **Work safely in an acute care institution**
I-12, M-AD
- 11.19.02.01 Identify categories of occupational and safety hazards
- 11.19.02.02 Distinguish illness from injury
- 11.19.02.03 State how toxic and/or infectious substances enter the body
- 11.19.02.04 Protect self in a health care setting
- 11.19.02.05 Reduce hazards in a health care setting
- 11.19.02.06 Read MSDS sheet
- 11.19.03.00** **Practice universal precautions**
I-12, M-AD
- 11.19.03.01 Explain each element of the chain of infection and its contribution to infection
- 11.19.03.02 Recognize signs and symptoms of infection
- 11.19.03.03 Distinguish between medical asepsis and surgical asepsis
- 11.19.03.04 Wash hands correctly
- 11.19.03.05 Perform isolation techniques

Electives

- 11.19.03.06 Identify principles of surgical asepsis
- 11.19.03.07 Prepare a sterile field
- 11.19.03.08 Add sterile items to a sterile field
- 11.19.03.09 Pour a sterile solution
- 11.19.03.10 Don sterile gloves
- 11.19.04.00 Provide wound care and irrigations
I-12, M-AD
- 11.19.04.01 Discuss the body's response during each stage of the wound-healing process
- 11.19.04.02 Explain factors that impair or promote normal wound healing
- 11.19.04.03 Administer a wound irrigation
- 11.19.04.04 Remove sutures or staples
- 11.19.04.05 Demonstrate care of a wound drainage system
- 11.19.04.06 Apply dry, pressure, wet-to-dry, and synthetic dressing
- 11.19.04.07 Assess CVP site and change dressing
- 11.19.04.08 Discuss purposes of binders, bandages and slings
- 11.19.04.09 Apply bandages
- 11.19.04.10 Apply binders
- 11.19.04.11 Apply a sling
- 11.19.04.12 Assess IV site

Electives

- 11.19.05.00** **Care for the preoperative and postoperative patient**
I-12, M-AD
- 11.19.05.01 Explain the rationale of postoperative exercises
- 11.19.05.02 Instruct patient in postoperative exercises
- 11.19.05.03 Identify benefits and risks associated with shaving a surgical site
- 11.19.05.04 Prepare a surgical site
- 11.19.05.05 Prepare a postoperative patient unit
- 11.19.05.06 Complete a preoperative check list
- 11.19.05.07 Perform postoperative care
- 11.19.06.00** **Apply hot and cold therapy**
I-12, M-AD
- 11.19.06.01 Identify the effects of heat and cold on the body
- 11.19.06.02 Identify the risks to clients related to hot and cold applications
- 11.19.06.03 Explain common guidelines used to protect clients who receive hot and cold applications
- 11.19.06.04 Apply dry heat applications, hot moist compresses, warm soaks, dry cold applications, moist cold applications
- 11.19.06.05 Administer a warm sitz bath
- 11.19.06.06 Place a hypothermia blanket
- 11.19.07.00** **Provide ostomy care**
I-12, M-AD
- 11.19.07.01 Identify types of bowel and bladder diversions
- 11.19.07.02 Explain differences in color and consistency of drainage based on location of an ostomy

Electives

- 11.19.07.03 Describe methods used to maintain skin integrity during pouching of ostomies
- 11.19.07.04 Pouch an enterostomy
- 11.19.07.05 Irrigate a colostomy
- 11.19.07.06 Drain and rinse an ostomy appliance
- 11.19.08.00 **Care for client with a nasogastric/nasointestinal tube or a gastric tube I-12, M-AD**
- 11.19.08.01 Demonstrate appropriate technique for administering bolus tube feeding
- 11.19.08.02 Demonstrate appropriate technique for administering continuous tube feeding
- 11.19.08.03 Demonstrate appropriate care of exit site for gastrostomy/jej unostomy tube
- 11.19.08.04 Verify tube placement for a feeding tube
- 11.19.08.05 Remove a nasogastric/intestinal tube
- 11.19.08.06 Irrigate a nasogastric tube
- 11.19.08.07 Calculate I & O for patient on gastric lavage/gavage
- 11.19.09.00 **Meet urinary elimination needs of patient I-12, M-AD**
- 11.19.09.01 Identify factors that alter normal voiding
- 11.19.09.02 Measure and record intake and output
- 11.19.09.03 Insert a straight or indwelling catheter
- 11.19.09.04 Perform catheter care
- 11.19.09.05 Obtain catheterized specimen for residual urine

Electives

- 11.19.09.06 Perform catheter irrigation
- 11.19.09.07 Remove retention catheter
- 11.19.09.08 Apply condom catheter
- 11.19.10.00 Meet bowel elimination needs of patient
I-12, M-AD
- 11.19.10.01 Describe factors that impede normal bowel elimination
- 11.19.10.02 Insert a rectal tube
- 11.19.10.03 Remove fecal impaction digitally
- 11.19.10.04 Administer an enema
- 11.19.11.00 Collect specimens
I-12, M-AD
- (Competencies as listed in 11.13 Laboratory Procedures)
- 11.19.12.00 Care for patients on oxygen therapy
I-12, M-AD
- 11.19.12.01 Discuss indications for oxygen therapy
- 11.19.12.02 Recognize hazards of oxygen therapy
- 11.19.12.03 Use oxygen safety guidelines
- 11.19.12.04 Distinguish between different means of oxygen administration
- 11.19.12.05 Apply a nasal cannula, an oxygen mask
- 11.19.12.06 Provide pulmonary toilet
- 11.19.12.07 Identify mechanisms of tracheal suctioning
- 11.19.12.08 Apply principles of wound care in the management of tracheostomy suctioning
- 11.19.12.09 Apply pulse oximetry

Electives

- 11.19.12.10 Understand pulse oximetry values and bring to RN's attention
- 11.19.12.11 Care for a patient with chest tubes
- 11.19.13.00 **Care for patient receiving cardiac monitoring**
I-12, M-AD

(Competencies as listed in 11.12 Diagnostic Procedures)
- 11.19.14.00 **Provide neurological assessment of patient**
I-12, M-AD
 - 11.19.14.01 Assess level of consciousness
 - 11.19.14.02 Assess pupil response
 - 11.19.14.03 Assess motor response
 - 11.19.14.04 Assess reflexes
 - 11.19.14.05 Recognize deviations from normal

Recommended Assessment: Skill evaluation at Columbus State Community College.
Mastery of all competencies in combination with:

11.2 Diagnostic Procedures

11.3 Laboratory Procedures

meets requirements of Mult 126.

Homemaker-Home Health Aide

(Mult 122)

- 11.20.01.00 **State why homemaker-home health aide services are needed**
I-12, M-12
- 11.20.01.01 State the reasons for providing service in the home
- 11.20.01.02 Explain the purposes and goals of homemaker-home health aide service
- 11.20.01.03 Identify clients' rights, as mandated by federal, state and local laws
- 11.20.01.04 Describe what can and cannot be done in the role of homemaker-home health aide

Electives

- 11.20.01.05 Identify general skills and specific skills that this course will teach
- 11.20.01.06 Describe the increase in number of homemaker-home health aide service programs since the United States since homemaker-home health aide services first began
- 11.20.01.07 Express expectations and responsibilities with respect to the training course
- 11.20.02.00 Describe the role of the homemaker-home health aide
I-12, M-12
- 11.20.02.01 Describe meaningfully how the role of the homemaker-home health aide meshes with the rest of the home care team
- 11.20.02.02 Identify the special responsibilities of the homemaker-home health aide on the home care team
- 11.20.02.03 Describe those features and changes in home and family life to which the homemaker-home health aide should be alert
- 11.20.02.04 Describe the tasks and responsibilities of the homemaker-home health aide in a variety of home care situations
- 11.20.02.05 Define the qualities of a successful homemaker-home health aide
- 11.20.03.00 Understand how agencies make services available to clients and families
I-12, M-12
- 11.20.03.01 Describe an agency or program that provides homemaker-home health aide services, its purpose and organization
- 11.20.03.02 Describe how an agency makes homemaker-home health aide services available by establishing procedures and policies, by developing plans of care bases on need and by professional assessments, and by providing supervision and guidance
- 11.20.03.03 Describe responsibility of the agency to homemaker-home health aides and staff

Electives

- 11.20.04.00** **Communicate effectively with the client**
I-12, M-12
- 11.20.04.01 Identify the ways in which people communicate with each other
- 11.20.04.02 Describe the difference between verbal and nonverbal communication
- 11.20.04.03 Describe how communicative skill of the homemaker-home health aide helps assure the provision of quality in-home care to clients and families
- 11.20.04.04 Describe methods for achieving good communication with others
- 11.20.05.00** **Understand basic human needs**
I-12, M-12
- 11.20.05.01 Describe basic needs which homemaker-home health aide service might be needed
- 11.20.05.02 Describe the importance of the family to individuals and society
- 11.20.05.03 Identify ways in which individuals and families differ
- 11.20.05.04 Express reasons the homemaker-home health aide must show respect for clients' cultural and lifestyle differences
- 11.20.05.05 Describe how people may feel when basic needs are not met
- 11.20.06.00** **Understand and work with children**
I-12, M-12
- 11.20.06.01 Identify the basic physical and emotional needs of children
- 11.20.06.02 Identify the basic growth stages of childhood and some behaviors typical of each
- 11.20.06.03 Recognize common reactions of children and other family members to illness or stress and how they might be handled
- 11.20.06.04 Describe family situations in which homemaker-home health aide service may be helpful
- 11.20.06.05 Identify ways in which the homemaker-home health aide can establish and maintain relationships with children and family members

Electives

- 11.20.06.06 Distinguish between discipline and punishment and between appropriate and inappropriate discipline
- 11.20.06.07 Recognize changes or events in a family that the homemaker-home health aide should report to the supervisor
- 11.20.06.08 Recognize common signs of child abuse
- 11.20.07.00 Understand and work with older clients
I-12, M-12
- 11.20.07.01 Discuss attitudes and beliefs about older persons
- 11.20.07.02 Identify myths about the aging process
- 11.20.07.03 Demonstrate understanding and sensitivity to differences in older clients
- 11.20.07.04 Describe general characteristics, particular needs-physical, financial and emotional-and problems of older clients
- 11.20.07.05 Describe how homemaker-home health aides help in meeting these needs
- 11.20.07.06 Identify attitudes and lifestyles which promote positive mental and physical health for elderly people
- 11.20.07.07 Discuss the impact of race, ethnicity, class and poverty on health
- 11.20.07.08 Identify methods of preventing dependency and excessive disability, and maximizing rehabilitation
- 11.20.07.09 Identify types and evident of elder abuse which might occur in the home
- 11.20.07.10 Identify organizational policies and state or local laws regarding suspected elder abuse, neglect and mistreatment

Electives

- 11.20.08.00 **Understand and work with clients who are ill**
I-12, M-12
- 11.20.08.01 **Identify** the principal goals in working with clients who are ill
- 11.20.08.02 **Identify** some of the ways clients, family members and significant others may react to illness
- 11.20.08.03 **Recognize** changes in behavior of individuals or informal caregivers that require professional assessment or re-evaluation
- 11.20.08.04 **Recognize** the homemaker-home health aide's relationship and responsibility to the client, family members, informal caregivers, the agency and the care team
- 11.20.09.00 **Understand and work with clients with disabilities**
I-12, M-12
- 11.20.09.01 **Distinguish** between and identify the relatedness of a disability and an illness
- 11.20.09.02 **Encourage** an appropriate level of independence for the particular client
- 11.20.09.03 **Demonstrate** a general knowledge of the problems and needs of clients with developmental disabilities
- 11.20.09.04 **Identify** the principal goals in working with clients who are disabled and their families
- 11.20.09.05 **Help** families accept and cope with the stress factors involved in caring for persons with disabilities
- 11.20.09.06 **Help** families understand capabilities and limitations of clients with disabilities
- 11.20.09.07 **Help** individuals develop to the best of their abilities through carrying out plans of care developed jointly by specialists, the individuals and their families
- 11.20.09.08 **Describe** the nature and general characteristics of Alzheimer's Disease as a progressive illness

Electives

- 11.20.10.00** **Understand and work with mental illness**
I-12, M-12
- 11.20.10.01 Identify some of the characteristics of mental health
- 11.20.10.02 Describe some of the concepts and misconceptions about mental illness
- 11.20.10.03 Describe how the homemaker-home health aide's contribution can be helpful to individuals, families and to the mental health team
- 11.20.10.04 Recognize that emotional conflict and stress can affect the physical health of an individual
- 11.20.11.00** **Maintain a clean, safe and healthy environment**
I-12, M-12
- 11.20.11.01 Recognize the importance of a clean and well-maintained home environment to health and safety, and its relationship to the plan of care
- 11.20.11.02 Identify the appropriate home maintenance role and tasks a homemaker-home health aide usually performs
- 11.20.11.03 Perform basic cleaning, housekeeping and maintenance tasks
- 11.20.11.04 Choose appropriate procedures, equipment and supplies, and improvise for these when supplies, equipment, and monetary resources are limited
- 11.20.11.05 Recognize when it is and when it is not appropriate to obtain the assistance of others in the household with home maintenance
- 11.20.11.06 Instruct others in the home to assist with housecleaning and maintenance tasks
- 11.20.12.00** **Provide the client with food and adequate nutrition**
I-12, M-12
- 11.20.12.01 Identify how foods and nutrition contribute to physical, social and psychological health
- 11.20.12.02 Discuss how the care plan is followed in carrying out food-related responsibilities, including modified diets

Electives

- 11.20.12.03 List factors influencing individual and family food habits
- 11.20.12.04 Plan meals that provide for adequate nutrition for individuals and families on both general and modified diets
- 11.20.12.05 Shop for, plan, prepare and serve food attractively and economically, with attention to eating habits and preferences
- 11.20.12.06 Prepare and serve food for the elderly, the ill and persons on modified diets
- 11.20.12.07 Properly feed those who cannot feed themselves
- 11.20.12.08 Store food safely
- 11.20.13.00 **Manage time, energy, money and other resources**
I-12, M-12
- 11.20.13.01 Identify ways to conserve time and energy while providing service
- 11.20.13.02 Identify resources within the family
- 11.20.13.03 Identify what responsibility for resource management may be expected of the homemaker-home health aide
- 11.20.13.04 Describe community resources available to individuals and families
- 11.20.14.00 **Provide home management when disease is present**
I-12, M-12
- 11.20.14.01 Define and discuss the nature of infectious diseases
- 11.20.14.02 Describe major routes of disease transmission
- 11.20.14.03 Identify major transmissible diseases
- 11.20.14.04 Identify precautions that must be taken to prevent the spread of disease in household maintenance and personal care activities
- 11.20.14.05 Demonstrate the safe disposal of body of body wastes
- 11.20.14.06 Demonstrate the skill of handwashing

Electives

- 11.20.14.07 Demonstrate how to cover the nose and mouth when sneezing or coughing
- 11.20.14.08 Teach family caregivers to prevent the spread of disease
- 11.20.14.09 Describe, in general terms, acquired immunodeficiency syndrome (AIDS)
- 11.20.15.00 Provide care for the dying patient
I-11, M-12
- 11.20.15.01 Define hospice and relate the history of hospice
- 11.20.15.02 List the stages of grief
- 11.20.15.03 Recognize and report the signs and symptoms of impending death
- 11.20.15.04 Provide comfort and support of the dying patient
- 11.20.15.05 Recognize personal emotions regarding death and dying
- 11.20.16.00 Identify body systems, disorders and diseases
I-11, M-12
- 11.20.16.01 Identify the basic body systems as a basis for giving personal care
- 11.20.16.02 Identify body functions as they influence the application of personal care skills
- 11.20.17.00 Observe body functions and report observations
I-11, M-12
- 11.20.17.01 Demonstrate ability to accurately measure body temperature, and rates of pulse and respiration
- 11.20.17.02 Recognize and observe the common signs and symptoms of illness
- 11.20.17.03 Report and record signs and symptoms of illness and other pertinent information in a meaningful way

Electives

- 11.20.18.00** **Care for the client in bed**
I-11, M-11, R-12
- 11.20.18.01** **Give personal care to meet client's needs for elimination, hygiene, grooming, skin care, foot and mouth care**
- 11.20.18.02** **Position the client in bed using principles of good body mechanics**
- 11.20.18.03** **Make an occupied bed**
- 11.20.18.04** **Identify environmental dangers to the client in bed**
- 11.20.18.05** **Demonstrate procedures for the following:**
 *positioning *bedpan *urinal
 *bedbath *skincare *shampoo in bed
 *nail care *backrub *oral hygiene
 *making an occupied bed
- 11.20.19.00** **Care for the client not confined to bed**
I-11, M-11, R-12
- 11.20.19.01** **Assist in transfer techniques and ambulation to help the client move to and from a bed, chair and tub**
- 11.20.19.02** **Identify safety hazards in the client's environment**
- 11.20.19.03** **Prepare for and assist in personal care activities related to hygiene and grooming**
- 11.20.19.04** **Demonstrate assisting in the following:**
 *transfer from bed to chair *ambulation
 *sponge, rub or shower bath *shampoo, sink or tub
- 11.20.20.00** **Observe the client's ability to take medications and report observations**
I-12, M-12
- 11.20.20.01** **Explain why homemaker-home health aides do not administer medications**
- 11.20.20.02** **Discuss the role of homemaker-home health aides in the use of medications by clients**

Electives

- 11.20.20.03 Observe and report how medications are taken by clients
- 11.20.20.04 Watch for, observe and report any unusual/unintended reactions to medications
- 11.20.20.05 Suggest methods of avoiding medication error
- 11.20.20.06 Store medication correctly
- 11.20.20.07 Encourage client to dispose of old medications correctly and report disposal
- 11.20.21.00 Provide rehabilitation
I-11, M-11, R-12
- 11.20.21.01 Assist clients with range of motion exercises
- 11.20.21.02 Assist clients with disabilities to perform the activities of daily living
- 11.20.21.03 Demonstrate assisting with the following:
*active and passive range of motion exercises
*ambulation using two of three types of assistive device such as crutches, walkers, and various kind of canes
- 11.20.22.00 Provide health and emergency procedures
I-12, M-12
- 11.20.22.01 Apply dressings using a non-sterile technique
- 11.20.22.02 Apply both moist or dry, hot and cold treatments
- 11.20.22.03 Weigh person and record
- 11.20.22.04 Respond appropriately in an emergency
- 11.20.23.00 Apply knowledge and skills during a 17-20 hour practicum
I-12, WS
- 11.20.23.01 Dress properly
- 11.20.23.02 Assemble needed supplies

Electives

- 11.20.23.03 Review the record-ascertain the plan of care associated with assigned tasks; consult staff members if necessary
- 11.20.23.04 Establish a relationship by being sensitive to client needs and respecting the family's lifestyle
- 11.20.23.05 Provide services specified in the care plan, using the following learned skills and knowledge:
 *organize work to conserve time and energy
 *work safely and effectively
 *leave the home or client's areas neat and clean
 *Respect and encourage the independence of the client
- 11.20.23.06 Help the family accept and carry out needed care and treatment as found in the plan of care
- 11.20.23.07 Report and record activities performed, observe conditions and any changes and problems not previously known to the agency
- 11.20.23.08 Work with the home care team or supervisor in an effective and productive manner to provide needed services
- 11.20.23.09 Know what procedure to follow if an emergency arises
- 11.20.23.10 Recognize and discuss the need for services provided by other organizations in the community

Recommended Assessment: The "Model Curriculum and Teaching Guide for the Instruction of the Homemaker-Home Health Aide", developed by the National Homecaring Council, qualifies the student to take the Home Health Aide examination for certification.

Disability Education

- 11.21.01.00 Identify etiology of disabling conditions and diseases
 I-12, M-12
- 11.21.01.01 Research and document known and suspected causes of disabling conditions/diseases
- 11.21.01.02 Investigate accepted methods of diagnosis of disabilities
- 11.21.01.03 Identify customary and alternative methods of treatment

Electives

- 11.21.02.00** Identify general characteristics of disabilities
I-12, M-12
- 11.21.02.01** Identify general physical characteristics of disabling conditions
- 11.21.02.02** Identify general psychomotor characteristics of disabling conditions
- 11.21.02.03** Identify general psychosocial characteristics of disabilities
- 11.21.02.04** Identify general cognitive characteristics of disabilities
- 11.21.02.05** Communicate needs and development

Community Health and Safety

(Mult 172)

- 11.22.01.00** Obtain safety certifications
I-12, M-12, LL
- 11.22.01.01** Complete Advanced First Aid training according to American Red Cross standards
- 11.22.01.02** Complete Professional Rescuer-level (Course C) CPR training according to American Heart Association or American Red Cross standards
- 11.22.01.03** Complete Preventing Disease Transmission training according to American Red Cross standards
- 11.22.01.04** Complete HIV/AIDS training according to American Red Cross standards
- 11.22.01.05** Complete Community Water Safety training
- 11.22.01.06** Complete Adapted Aquatics training
- 11.22.02.00** Demonstrate knowledge of personal health and safety issues
I-12, M-12, LL
- 11.22.02.01** Practice community safety habits
- 11.22.02.02** Identify classifications of medications

Electives

Recommended Assessment: Certification in all areas through American Red Cross and for American Heart Association.

Craft/Leisure Skills

- | | |
|--------------------|--|
| 11.23.01.00 | Learn techniques and apply craft skills
I-12, M-12, R-AD/BD, LL |
| 11.23.01.01 | Develop a file on each craft |
| 11.23.01.02 | Perform the craft |
| 11.23.01.03 | Teach the craft |
| 11.23.01.04 | Problem solve the craft activity |
| 11.23.02.00 | Learn techniques and practice activity skills
I-12, M-12, R-AD/BD, LL |
| 11.23.02.01 | Develop a file on each activity |
| 11.23.02.02 | Perform the activity |
| 11.23.02.03 | Teach the activity |
| 11.23.02.04 | Problem solve the activity |
| 11.23.03.00 | Develop individual treatment skills to develop, deliver, and document
appropriate client activities
I-12, M-12, R-AD/BD, LL |
| 11.23.03.01 | Perform assessment skills |
| 11.23.03.02 | Develop a patient care plan |
| 11.23.03.03 | Provide individualized activity program |
| 11.23.03.04 | Document patient's participation and progress in activity program |
| 11.23.03.05 | Prepare program evaluation |

Electives

- 11.23.03.06 **Make relevant program recommendations**
- 11.23.03.07 **Prepare program summaries**
- 11.23.04.00 **Demonstrate activity analysis and adaptation skills**
I-12, M-12, R-AD/BD, LL
- 11.23.04.01 **Perform activity and function analysis**
- 11.23.04.02 **Demonstrate activity adaptation skills**
- 11.23.04.03 **Demonstrate appropriate safety measure in activity adaptations**

Human Development

- 11.24.01.00 **Demonstrate knowledge of human reproduction and sexuality**
I-12, M-12, R-AD/BD, LL
- 11.24.01.01 **Identify anatomy and physiology of the male and female human reproductive systems**
- 11.24.01.02 **Identify the stages of pregnancy and the corresponding stages of fetal development**
- 11.24.01.03 **Identify genetic disorders that can be traced to heredity**
- 11.24.01.04 **Identify ways specific birth defects can be prevented**
- 11.24.02.00 **Identify development during life stages**
I-12, M-12, R-AD/BD, LL
- 11.24.02.01 **List physical, social, mental, emotional, and psychomotor characteristics of persons through the following life stages:**
 - a) **newborn/infant through toddler**
 - b) **preschool**
 - c) **school years K-6, ages 5-12**
 - d) **adolescent**
 - e) **young adult, to age 40 years**
 - f) **middle adult, 40-60 years of age**
 - g) **older adult, over 60 years of age**

Electives

- 11.24.03.00** **Identify and discuss issues related to death/dying**
I-12, M-12, R-AD/BD, LL
- 11.24.03.01** **Define physiological (functions) of death**
- 11.24.03.02** **Locate community agencies/programs that assist persons with**
death/dying needs

Surgical Technology

- 11.25.01.00** **Demonstrate knowledge of surgical technology program organization**
- 11.25.01.01** **Describe safety procedures**
- 11.25.01.02** **Describe health care facilities**
- 11.25.01.03** **Describe hospital organization and management**
- 11.25.01.04** **Describe operating room personnel**
- 11.25.01.05** **List surgical team members**
- 11.25.01.06** **Identify aspects of the physical environment of the surgical suite**
- 11.25.01.07** **Outline interdepartmental relations**
- 11.25.01.08** **Discuss communication and rapport**
- 11.25.01.09** **Introduce the history of surgery**
- 11.25.01.10** **Describe surgery as it is today**
- 11.25.01.11** **Ethical, moral and legal responsibilities**
- 11.25.01.12** **Class discussion of surgical conscience**

Electives

- 11.25.02.00** Discuss physiology of organs as they relate to surgical repair procedures
- 11.25.02.01 Explain the surgical procedures performed on the skin
- 11.25.02.02 Describe surgical procedures performed on the skeletal system
- 11.25.02.03 After required reading and instruction, describe the surgical procedures of the nervous system with 85% accuracy based on test/quiz
- 11.25.02.04 List and describe the surgical procedures of the special senses
- 11.25.02.05 Describe the surgical procedures of the heart
- 11.25.02.06 Describe the surgical procedures of the respiratory system
- 11.25.02.07 Define the surgical procedures associated with the digestive system
- 11.25.02.08 Describe the surgical procedures of the urinary system
- 11.25.02.09 Describe the surgical procedures of the reproductive organs
- 11.25.03.00** Demonstrate principles of sanitation, sterilization, and disinfection
- 11.25.03.01 List the necessary factor for infection
- 11.25.03.02 Identify and describe the physical and chemical methods used to protect patients and workers from invasion by pathogenic microorganisms
- 11.25.04.00** Identify wound healing
- 11.25.04.01 Identify how tissue reacts to trauma
- 11.25.04.02 Describe the healing process
- 11.25.05.00** Demonstrate knowledge of principles of pharmacology
- 11.25.05.01 Review measurements and basic arithmetic

Electives

- 11.25.05.02 Demonstrate ability to properly mix drugs in operating room setting
- 11.25.05.03 Define general terminology associated with the pharmacological use of drugs in the operating room
- 11.25.05.04 Identify the principles of drug use in the care of the surgical patient
- 11.25.05.05 Explain the principles of anesthesia administration
-
- 11.25.06.00 Demonstrate patient care concepts
- 11.25.06.01 Demonstrate an understanding of the surgical patient
- 11.25.06.02 Describe the physical, spiritual, and psychological patient needs
- 11.25.06.03 Demonstrate an understanding of the process used to obtain an informed consent for surgical procedure or treatment
- 11.25.06.04 Describe the identification process of the surgical patient
- 11.25.06.05 Prepare the operative site for surgery
- 11.25.06.06 Describe the application of thermoregulatory devices
- 11.25.06.07 Explain the principles of vital signs
- 11.25.06.08 Explain the principles of urinary catheterization and demonstrate the procedure
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- 11.25.07.00 Provide asepsis in the surgical environment
- 11.25.07.01 Discuss the concepts of asepsis and demonstrate their application
- 11.25.07.02 Define surgical conscience
- 11.25.07.03 Identify the principles and demonstrate the techniques of sterilization
- 11.25.07.04 Identify principles and demonstrate techniques of disinfection and antisepsis

Electives

- 11.25.08.00** **Provide basic case preparation and procedures**
- 11.25.08.01 Identify basic instruments by type, function, and name and demonstrate care, handling and assembly
- 11.25.08.02 Identify and prepare basic surgical supplies
- 11.25.08.03 Identify suture materials and stapling devices and demonstrate preparation and handling technique
- 11.25.08.04 Identify, describe, and handle the various surgical needles
- 11.25.08.05 Demonstrate techniques of opening and preparing supplies and instruments needed for any operative procedure
- 11.25.09.00** **Demonstrate surgical procedures**
- 11.25.09.01 Demonstrate techniques of opening and preparing supplies and instruments needed for any operative procedure in a simulated laboratory setting with the maintenance of asepsis at all times
- 11.25.09.02 Describe the operative sequence in the opening and closing of a surgical wound
- 11.25.09.03 Discuss the relevant anatomy of surgical procedures listed in the Surgical Technology Textbook
- 11.25.09.04 Identify the name and uses of special instruments, drugs, and supplies for the surgical procedures found in the textbook

HEART of OHIO TECH PREP CONSORTIUM
1997

Multi-Competency Health Technology Model

PART III:
Tech Prep Secondary Competencies (Leveled)

HEART of OHIO TECH PREP CONSORTIUM

1996

Multi-Competency Health Technologies Model

PART IV:

Postsecondary Competencies

Columbus State Community College

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - GERONTOLOGY TECHNOLOGY**

Student Outcomes	GER 101	GER 210	ENGL 101	PSY 100	GER 101	GER 105	PSY 240	SSCI 101	ENGL 102	GERJ109	GER 191
1. Recognize biological, psychological, social and psychosexual aspects of aging.	F	F, S		F		F	F	F		F	S
2. Acknowledge the later years as a time of growth and development.	F	F, S		F			F	F		F	S
3. Assess adaptations to aging in terms of interpersonal relationships and personality.	F			F	F		F	F		F	S
4. Support clients and families in the grieving process.							F				S
5. Address the psychosocial, biological and economic needs of older women in our culture.							F	F			S
6. Relate the demographics of a target population to program planning needs.						F					S
7. Adapt interpersonal communication skills to the needs of older adults.		F, S	F		F				F	F	S
8. Use appropriate interventions to facilitate problem solving; information and referral, advocacy, data gathering, problem identification, and care management.					F	F		F	F	F	S
9. Demonstrate an understanding of legal rights of older adults related to income sources, medical services, discrimination, housing, and community services.	F					F					S
10. Assist older adults in selecting appropriate housing environments.		F, S				F					S
11. Demonstrate knowledge of diagnostic and assessment processes for organic and functional mental illness that may affect older adults.		F, S					F				S
12. Demonstrate an understanding of the effects of social policy on organizational and operational structures as related to older adults.											S
13. Use appropriate physical, social, and mental health interventions along the continuum of well-elderly to frail-elderly.	F					F					S
14. Think critically.	F	F, S	F	F	F	F	F	F	F	F	S
15. Solve problems.	F	F, S	F	F	F	F	F	F	F	F	S
16. Communicate effectively.	F	F, S	F	F	F	F	F	F	F	F	S
17. Demonstrate interpersonal skills.	F	F, S	F	F	F	F	F	F	F	F	S
18. Recognize the value of human diversity.	F	F, S	F	F	F	F	F	F	F	F	S
19. Demonstrate life management skills.	F		F	F	F	F	F	F	F	F	S

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - GERONTOLOGY TECHNOLOGY**

Student Outcomes	GER 192	PVA 210	CET 101	GER 205	GER 291	GER 292	GER 209	ENGL 202	BIO 101	GER 213	GER 293
1. Recognize biological, psychological, social and psychosexual aspects of aging.	S	F		F, S	S	S	F			F	S
2. Acknowledge the later years as a time of growth and development.	S	F		F, S	S	S	F			F	S
3. Assess adaptations to aging in terms of interpersonal relationships and personality.	S	F			S	S	F				S
4. Support clients and families in the grieving process.	S	F			S	S	F				S
5. Address the psychosocial, biological and economic needs for older women in our culture.	S	F			S	S	F				S
6. Relate the demographics of a target population to program planning needs.	S	F			S	S				F	S
7. Adapt interpersonal communication skills to the needs of older adults.	S	F		F, S	S	S		F			S
8. Use appropriate interventions to facilitate problem solving; information and referral, advocacy, data gathering, problem identification, and care management.	S				S	S		F			S
9. Demonstrate an understanding of legal rights of older adults related to income sources, medical services, discrimination, housing, and community services.	S				S	S				F	S
10. Assist older adults in selecting appropriate housing environments.	S			F, S	S	S					S
11. Demonstrate knowledge of diagnostic and assessment processes for organic and functional mental illness that may affect older adults.	S	F		F, S	S	S	F			S	S
12. Demonstrate an understanding of the effects of social policy on organizational and operational structures as related to older adults.	S				S	S	F				S
13. Use appropriate physical, social, and mental health interventions along the continuum of well-elderly to frail-elderly.	S				S	S	F				S
14. Think critically.	S	F	F	F, S	S	S	F	F		F	S
15. Solve problems.	S	F	F	F, S	S	S	F	F		F	S
16. Communicate effectively.	S	F	F	F, S	S	S	F	F		F	S
17. Demonstrate interpersonal skills.	S	F		F, S	S	S	F	F		F	S
18. Recognize the value of human diversity.	S	F		F, S	S	S	F	F		F	S
19. Demonstrate life management skills.	S	F			S	S	F	F		F	S

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - GERONTOLOGY TECHNOLOGY**

Student Outcomes	GER 294	GER 207	GER 211	MATH 101	GER 295	GER 296	GER 201	HUM XXX	COMM 110	GER 208	GLT 206
1. Recognize biological, psychological, social and psychosexual aspects of aging.	S	F	F		S	S	F			F, S	F, S
2. Acknowledge the later years as a time of growth and development.	S	F	F		S	S				F, S	F, S
3. Assess adaptations to aging in terms of interpersonal relationships and personality.	S	F	F		S	S					F, S
4. Support clients and families in the grieving process.	S	F	F		S	S					
5. Address the psychosocial, biological and economic needs of older women in our culture.	S	F	F		S	S	F				F, S
6. Relate the demographics of a target population to program planning needs.	S	F			S	S	F			F, S	F, S
7. Adapt interpersonal communication skills to the needs of older adults.	S	F	F		S	S			F		F, S
8. Use appropriate interventions to facilitate problem solving: information and referral, advocacy, data gathering, problem identification, and care management.	S	F	F		S	S					F, S
9. Demonstrate an understanding of legal rights of older adults related to income sources, medical services, discrimination, housing, and community services.	S	F			S	S	F				
10. Assist older adults in selecting appropriate housing environments.	S	F			S	S	F			F, S	
11. Demonstrate knowledge of diagnostic and assessment processes for organic and functional mental illness that may affect older adults.	S	F	F		S	S	F			F, S	
12. Demonstrate an understanding of the effects of social policy on organizational and operational structures as related to older adults.	S	F			S	S	F				F, S
13. Use appropriate physical, social, and mental health interventions along the continuum of well-elderly to frail-elderly.	S	F	F		S	S	F			F, S	F, S
14. Think critically.	S	F	F		S	S	F	F	F	F, S	F, S
15. Solve problems.	S	F	F		S	S	F		F	F, S	F, S
16. Communicate effectively.	S	F	F		S	S	F	F	F	F, S	F, S
17. Demonstrate interpersonal skills.	S	F	F		S	S	F		F	F, S	F, S
18. Recognize the value of human diversity.	S	F	F		S	S	F	F	F		F, S
19. Demonstrate life management skills.	S	F	F		S	S	F		F		

**COLUMBUS STATE COMMUNITY COLLEGE
GERONTOLOGY TECHNOLOGY
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

<i>Student Outcomes</i>	<i>Methods of Formative Assessment</i>	<i>Methods of Summative Assessment</i>
1. Recognize biological, psychological, social and psychosexual aspects of aging.	senior friend, student reports, ecological assessments, exams, agency visits	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
2. Acknowledge the later years as a time of growth and development.	class discussion, case studies	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
3. Assess adaptations to aging in terms of interpersonal relationships and personality.	senior friend, case studies, exams, analysis of a creative work by an older adult	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
4. Support clients and families in the grieving process.	simulation, case studies, exams	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
5. Address the psychosocial, biological and economic needs of older women in our culture.	discussion of literature related to aging, exams, case studies	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
6. Relate the demographics of a target population to program planning needs.	problem-solving, program planning	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
7. Adapt interpersonal communication skills to the needs of older adults.	role play, exams, video taped interviews, simulations, senior friend visits	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
8. Use appropriate interventions to facilitate problem solving, information and referral, advocacy, data gathering, problem identification, and care management.	role play, simulations, class discussion, exams, case studies, use of assessment forms, concept mapping	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
9. Demonstrate an understanding of legal rights of older adults related to income sources, medical services, discrimination, housing, and community services.	creation of public policy, analysis of public policy, analysis of legislative hearing, case discussion	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
10. Assist older adults in selecting appropriate housing environments.	visitation reports, assessment and analysis of housing environments	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
11. Demonstrate knowledge of diagnostic and assessment processes for organic and functional mental illness that may affect older adults.	student reports, analysis of assessment tool, exams, case studies	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
12. Demonstrate an understanding of the effects of social policy on organizational and operational structures as related to older adults.	analysis and creation of social policies, exams, observation of legislative hearing	case studies, group problem-solving, practicum experience, practicum evaluation, conferences and forms by agency supervision, ethical discussions, practicum logs and forms, practicum simulations
13. Use appropriate physical, social, and mental health interventions along the continuum of well-elderly to frail-elderly.	case discussions, exams, role play	interventions in practicum, case studies
14. Think critically.	self analysis, video tape, interpersonal skills, evaluate social issues related to older people	case studies, practicum experience, practicum logs and notebook, evaluation of competencies for practicum

<i>Student Outcomes</i>	<i>Methods of Formative Assessment</i>	<i>Methods of Summative Assessment</i>
15. Solve problems.	analyze problems, apply technical skills, assess environment for solution	case studies, practicum experience, practicum logs and notebook, evaluation of competencies for practicum
16. Communicate effectively.	oral presentations, reports, case analysis, class discussion, exams, reflective listening, role plays	case studies, practicum experience, practicum logs and notebook, evaluation of competencies for practicum
17. Demonstrate professional behavior.	role play, reports, value clarification, perception exercises	case studies, practicum experience, practicum logs and notebook, evaluation of competencies for practicum
18. Recognize the value of human diversity.	role play, reports, value clarification, perception exercises	case studies, practicum experience, practicum logs and notebook, evaluation of competencies for practicum
19. Demonstrate effective communication skills.	role play, reports, value clarification, perception exercises	case studies, practicum experience, practicum logs and notebook, evaluation of competencies for practicum

COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - HEALTH INFORMATION MANAGEMENT TECHNOLOGY

Student Outcomes	HIMT 111	MCT 100	MCT 101	RQJ21	CPT 101	ENGL 101	HIMT 121	HIMT 123	ENGL 102	MATH 102	BIO 122	HIMT 132	HIMT 133	HIMT 134	HIMT 207	MCT 100
1. Review health records for completeness and accuracy.														F/S		
2. Verify components necessary to ensure appropriateness and adequacy of health care documentation.								F				F	F	F/S		
3. Maintain and compile secondary health information.								F				F	F	F/S		
4. Apply legal principles, policies, regulations, and standards for the control, use and dissemination of health information.													F/S	F		
5. Collect, compute, analyze, interpret, and present statistical data related to health care services.								F						F		
6. Code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and statistical analysis.																
7. Review, retrieve, and compile health data for reimbursement, quality assessment, patient care research, clinical registers, and other identified informational needs.								F						F		
8. Apply principles of supervision and leadership and the tools used to effectively manage human resources.	F							F				F	F		F/S	
9. Think critically.								F								
10. Solve problems.								F						F		
11. Communicate effectively.								F						F		
12. Demonstrate interpersonal skills.	F							F						F		
13. Recognize the value of human diversity.	F							F						F		
14. Demonstrate life management skills.								F						F		

COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - HEALTH INFORMATION MANAGEMENT TECHNOLOGY

Student Outcomes	MULT 180	ENGL 200	HIMT 243	HIMT 141	HIMT 245	HIMT 292	SSCI 10X	HIMT 255	HIMT 257	HIMT 259	HIMT 294	COMI 110	HIMT 265	HIMT 291	HIMT 296	HUM XXX
1. Review health records for completeness and accuracy.			F		F	S		F	F	F	S		F	S	S	
2. Verify components necessary to ensure appropriateness and adequacy of health care documentation.			F		F	S		F	F	F	S		F	S	S	
3. Maintain and compile secondary health information.													F	S		
4. Apply legal principles, policies, regulations, and standards for the control, use and dissemination of health information.						S					S		F	S	S	
5. Collect, compute, analyze, interpret, and present statistical data related to health care services.			F		F	S		F	F/S	F/S	S		F	S		
6. Code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and statistical analysis.					F/S			F/S			S		F/S	S	S	
7. Review, retrieve, and compile health data for reimbursement, quality assessment, patient care research, clinical registers, and other identified informational needs.			F		F	S		F	F/S	F/S	S		F/S	S	S	
8. Apply principles of supervision and leadership and the tools used to effectively manage human resources.						S					S			S	S	
9. Think critically.						S					S				S	
10. Solve problems.						S					S				S	
11. Communicate effectively.						S					S			S	S	
12. Demonstrate interpersonal skills.						S					S				S	
13. Recognize the value of human diversity.						S					S				S	
14. Demonstrate life management skills.						S					S				S	

**COLUMBUS STATE COMMUNITY COLLEGE - HEALTH INFORMATION MANAGEMENT TECHNOLOGY
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

<i>Student Outcomes</i>	<i>Methods of Formative Assessment</i>	<i>Methods of Summative Assessment</i>
1. Review health records for completeness and accuracy.	chart reviews	clinical experience, seminar
2. Verify components necessary to ensure appropriateness and adequacy of health care documentation.	computer applications	clinical experience, seminar
3. Maintain and compile secondary health information.	computer applications	clinical experience, seminar
4. Apply legal principles, policies, regulations, and standards for the control, use and dissemination of health information.	case studies, computer applications	clinical experience, seminar
5. Collect, compute, analyze, interpret, and present statistical data related to health care services.	case studies	clinical experience, seminar
6. Code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and statistical analysis.	case studies	clinical experience, seminar
7. Review, retrieve, and compile health data for reimbursement, quality assessment, patient care research, clinical registers, and other identified informational needs.	case studies, computer applications.	clinical experience, seminar
8. Apply principles of supervision and leadership and the tools used to effectively manage human resources.	case studies, portfolio, role-playing	clinical experience, seminar
9. Think critically.	case studies	clinical experience, seminar
10. Solve problems.	case studies	clinical experience, seminar
11. Communicate effectively.	case studies	clinical experience, seminar
12. Demonstrate interpersonal skills.	case studies	clinical experience, seminar
13. Recognize the value of human diversity.	case studies	clinical experience, seminar
14. Demonstrate life management skills.	case studies	clinical experience, seminar

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**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - MEDICAL CODING SPECIALIST CERTIFICATE**

Student Outcomes	BIOL 121	CPE 101	ENGL 101	MATH 101	HIMT 121	HIMT 134	BIOL 122	HIMT 141	HIMT 241	ANAT 200	HIMT 243	HIMT 263	COMINT 110
1. Review health records for completeness and accuracy.						F/S							
2. Identify components of appropriate and adequate documentation of health care.						F/S							
3. Code, classify, and index diagnosis and procedures for the purposes of reimbursement.									F		F	F/S	
4. Abstract information from patient records to complete a claim properly.						F						F/S	
5. Think critically.						F			F		F	F	
6. Solve problems.						F			F		F	F	
7. Communicate effectively.						F			F		F	F	
8. Demonstrate interpersonal skills.						F			F		F	F	
9. Recognize the value of human diversity.						F			F		F	F	
10. Demonstrate life management skills.						F			F		F	F	

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**COLUMBUS STATE COMMUNITY COLLEGE
MEDICAL CODING SPECIALIST CERTIFICATE
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

<i>Student Outcomes</i>	<i>Methods of Formative Assessment</i>	<i>Methods of Summative Assessment</i>
1. Review health records for completeness and accuracy.	Case studies, exams, peer review, discussion.	Case studies, exams.
2. Identify components of appropriate and adequate documentation of health care.	Case studies, exams, peer review, discussion.	Case studies, exams.
3. Code, classify, and index diagnosis and procedures for the purposes of reimbursement.	Case studies, exams, peer review, discussion.	Case studies, exams.
4. Abstract information from patient records to complete a claim properly.	Case studies, exams, peer review, discussion.	Case studies, exams.
5. Think critically.	Case studies.	N/A
6. Solve problems.	Case studies.	N/A
7. Communicate effectively.	In class participation	N/A
8. Demonstrate interpersonal skills.	In class participation	N/A
9. Recognize the value of human diversity.	In class participation	N/A
10. Demonstrate life management skills.	In class participation	N/A

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - MEDICAL TRANSCRIPTION CERTIFICATE**

Student Outcomes	ENGL 101	MULT 101	OADM 131	CPT 101	BIO 121	HIMT 121	ENGL 102	AICT 106	BIO 122	HIMT 132	HIMT 141	COMH 110
1. Demonstrate a knowledge and usage of medical terminology as it relates to the science of medicine.						F				F	F	
2. Demonstrate a knowledge of the diagnostic techniques, indications, values and significant results used in clinical diagnosis and treatment of patients.						F				F	F	
3. Demonstrate a knowledge of surgery, radiology and pathology procedures.						F				F	F	
4. Demonstrate proper English usage, grammar, spelling, punctuation and sentence structure										F/S		
5. Demonstrate a knowledge of the equipment used in transcribing dictation and the ability to use it.										F/S		
6. Recognize, discriminate, and clarify inconsistencies and appropriately edit while transcribing										F/S		
7. Demonstrate accuracy and productivity in transcribing dictation										F/S		
8. Demonstrate an understanding of medical ethics and medical legal responsibilities of a transcriptionist										F/S		
9. Demonstrate an awareness of the environment in which the transcriptionist is employed.										F/S		
10. Think critically						F				F	F	
11. Solve problems.						F				F	F	
12. Communicate effectively						F				F	F	
13. Demonstrate interpersonal skills.						F				F	F	
14. Recognize the value of human diversity						F				F	F	
15. Demonstrate life management skills.						F				F	F	

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**COLUMBUS STATE COMMUNITY COLLEGE
MEDICAL TRANSCRIPTION CERTIFICATE
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

Student Outcomes	Methods of Formative Assessment	Methods of Summative Assessment
1. Demonstrate a knowledge and usage of medical terminology as it relates to the science of medicine.	Exams.	N/A
2. Demonstrate a knowledge of the diagnostic techniques, indications, values and significant results used in clinical diagnosis and treatment of patients.	Exams.	N/A
3. Demonstrate a knowledge of surgery, radiology and pathology procedures.	Exams.	N/A
4. Demonstrate proper English usage, grammar, spelling, punctuation and sentence structure.	Exams, transcribing.	Exams, transcribing.
5. Demonstrate a knowledge of the equipment used in transcribing dictation and the ability to use it.	Exams, transcribing.	Exams, transcribing.
6. Recognize, discriminate, and clarify inconsistencies and appropriately edit while transcribing.	Exams, transcribing.	Exams, transcribing.
7. Demonstrate accuracy and productivity in transcribing dictation.	Transcribing. Peer review of assignments.	Transcription exams.
8. Demonstrate an understanding of medical ethics and medical legal responsibilities of a transcriptionist.	Research paper. Exam.	Exams.
9. Demonstrate an awareness of the environment in which the transcriptionist is employed.	Peer review of assignments.	Exams.
10. Think critically.	Peer review of assignments.	N/A
11. Solve problems.	Peer review of assignments.	N/A
12. Communicate effectively.	Peer review of assignments.	N/A
13. Demonstrate interpersonal skills.	Peer review of assignments.	N/A
14. Recognize the value of human diversity.	Peer review of assignments.	N/A
15. Demonstrate life management skills.	Peer review of assignments.	N/A

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - MEDICAL LABORATORY TECHNOLOGY**

Student Outcomes	MLT 141	MATH 103	MLT 100	CHEM 113	MLT 120	MLT 120	ENGL 101	BIO 109	ANAT 101	MLT 260	BIO 113	CPT 101	MLT 250
1. Perform routine collection and processing procedures for biological specimens.	F				F	F			F	F	F		F
2. Perform routine analytical techniques on body fluids using automated equipment and/or manual methods with accuracy and precision.	F/S	F		F	F	F			F	F/S	F	F	F
3. Follow prescribed strategies to recognize technical or instrumental problems, identify direct causes, and make simple corrections when they are indicated.	F	F		F	F					F	F		F
4. Perform and monitor quality control to evaluate analytical procedures within predetermined parameters.	F	F			F	F				F	F	F	F
5. Perform preventive maintenance of laboratory instruments by referring to appropriate sources/reference materials.	F				F					F	F	F	F
6. Relate laboratory findings to common disease processes.	F			F	F			F	F	F	F		F
7. Log in specimens, keep accurate records, prepare reports, and transmit reports clearly and completely.	F	F		F	F	F		F	F	F	F	F	F
8. Follow prescribed safety procedures in all areas of laboratory work.	F		F	F	F	F		F	F	F	F		F
9. Meet requirements to take a national certifying examination for medical laboratory technicians.	F		F	F	F	F		F		F	F	F	F
10. Apply basic scientific principles in learning new techniques and procedures.	F	F		F	F			F		F	F		F
11. Demonstrate professional conduct and interpersonal communication skills with patients, co-workers, and other health care professionals.	F		F	F	F	F	F		F	F	F		F
12. Recognize and act upon one's need for continuing education as a function of growth and maintenance of professional competence.	F		F	F	F	F				F	F	F	F
13. Think critically.	F/S	F	F	F	F	F/S	F	F	F	F	F		F/S
14. Solve problems.	F/S	F		F	F	F/S	F	F		F	F		F/S
15. Communicate effectively.	F/S		F/F	F	F	F/S	F	F	F	F	F		F/S
16. Demonstrate interpersonal skills.	F		F	F	F	F	F	F		F	F		F/S
17. Recognize the value of human diversity.	F		F		F		F			F	F		F
18. Demonstrate life management skills.	F	F	F		F		F			F	F		F

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - MEDICAL LABORATORY TECHNOLOGY**

Student Outcomes	COMM 105	SSCI 10X	MLT 220	ENGL 102	HUM 1XX	MLT 240	MLT 242	MLT 244	ENGL 200	MULT 116	MLT 270	MLT 271
1. Perform routine collection and processing procedures for biological specimens.			F			F	F	S		S	S	
2. Perform routine analytical techniques on body fluids using automated equipment and/or manual methods with accuracy and precision.			F/S			F/S	F/S	S			S	
3. Follow prescribed strategies to recognize technical or instrumental problems, identify direct causes, and make simple corrections when they are indicated.			F			F	F	S		S	S	
4. Perform and monitor quality control to evaluate analytical procedures within predetermined parameters.			F			F	F	S			S	
5. Perform preventive maintenance of laboratory instruments by referring to appropriate sources/reference materials.			F			F	F					
6. Relate laboratory findings to common disease processes.			F			F	F	S			S	
7. Log in specimens, keep accurate records, prepare reports, and transmit reports clearly and completely.	F		F	F		F	F	F	F	S	S	
8. Follow prescribed safety procedures in all areas of laboratory work.			F			F	F	S		S	S	
9. Meet requirements to take a national certifying examination for medical laboratory technicians.			F			F	F	S		S	S	
10. Apply basic scientific principles in learning new techniques and procedures.		F	F			F	F	F			S	
11. Demonstrate professional conduct and interpersonal communication skills with patients, co-workers, and other health care professionals.	F	F	F	F		F	F	F	F	S	S	S
12. Recognize and act upon one's need for continuing education as a function of growth and maintenance of professional competence.			F			F	F	F			S	S
13. Think critically.	F	F/S	F/S	F	F	F	F	F	F		S	
14. Solve problems.	F	F/S	F/S	F		F	F	F	F		S	
15. Communicate effectively.	F	F/S	F/S	F	F	F	F	F	F		S	S
16. Demonstrate interpersonal effectively.	F	F	F	F		F	F	F	F		S	S
17. Recognize the value of human diversity.	F	F/S	F	F	F	F	F	F	F		S	S
18. Demonstrate life management skills	F	F	F	F		F	F	F	F		S	S

**COLUMBUS STATE COMMUNITY COLLEGE - MEDICAL LABORATORY TECHNOLOGY
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

<i>Student Outcomes</i>	<i>Methods of Formative Assessment</i>	<i>Methods of Summative Assessment</i>
1. Perform routine collection and processing procedures for biological specimens.	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capstone course
2. Perform routine analytical techniques on body fluids using automated equipment and/or manual methods with accuracy and precision.	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capstone course
3. Follow prescribed strategies to recognize technical or instrumental problems, identify direct causes, and make simple corrections when they are indicated.	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capstone course
4. Perform and monitor quality control to evaluate analytical procedures within predetermined parameters.	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capstone course
5. Perform preventive maintenance of laboratory instruments by referring to appropriate sources/reference materials.	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capstone course
6. Relate laboratory findings to common disease processes.	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	clinical experience evaluation form, mock registry, capstone course
7. Log in specimens, keep accurate records, prepare reports, and transmit reports clearly and completely.	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capstone course
8. Follow prescribed safety procedures in all areas of laboratory work.	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capstone course
9. Meet requirements to take a national certifying examination for medical laboratory technicians	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	capstone course, mock registry
10. Apply basic scientific principles in learning new techniques and procedures.	graded laboratory exercises and summaries, group projects/independent studies, practical and written exams, professional attitudes evaluation	clinical experience evaluation form
11. Demonstrate professional conduct and interpersonal communication skills with patients, co-workers, and other health care professionals.	self-assessment paper and exercise, attitudinal evaluation - quarterly	clinical experience evaluation form, clinical seminar
12. Recognize and act upon one's need for continuing education as a function of growth and maintenance of professional competence.	group projects, independent studies, professional journal summaries, attitudinal evaluations	clinical seminar presentations, clinical experience evaluation form
13. Think critically.	written exams, unknowns, lab practicals	clinical experience evaluation form, final lab practicals
14. Solve problems.	written exams, unknowns, lab practicals	clinical experience evaluation form, final lab practicals
15. Communicate effectively.	written assignments and presentations, exams, lab practicals	clinical experience evaluation form, clinical seminar participation
16. Demonstrate effectively.	attitudinal evaluations, group projects, daily lab duties	clinical experience evaluation form, clinical seminar participation
17. Recognize the value of human diversity.	attitudinal evaluation	clinical experience evaluation form, participation in seminar discussions
18. Demonstrate life management skills.	attitudinal evaluation, group assignments	clinical experience evaluation form, participation in seminar discussions

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COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - MENTAL HEALTH/CHEMICAL DEPENDENCE/MENTAL RETARDATION TECHNOLOGY

Student Outcomes	MHC R 115	MHC R 111	MHC R 110	PSY 100	ENGL 100	MHC R 115	MHC R 111	ENGL 100	PSY 100	MHC R 115	PSY 110	PSY 210	MHC R 115	PSY 210
Organize data and formulate functional/psycho/social assessments.		F/S				F/S	F/S						F/S	
Monitor and develop progress reports, social histories, and transfer/discharge summaries.						F/S	F/S							
Utilize positive behavior change strategies.			F/S											
Participate as a member of an interdisciplinary process team.						F/S	F/S							
			F/S			F/S	F/S							
3. Exhibit professional characteristics of an efficient helper.	F/S	F/S	F/S			F/S	F/S							
	F/S	F/S	F/S			F/S	F/S						F/S	
2. Think critically.	F/S	F/S				F/S	F/S						F/S	
	F/S	F/S				F/S	F/S						F/S	
4. Communicate effectively.	F/S	F/S	F/S			F/S	F/S						F/S	
	F/S	F/S	F/S			F/S	F/S						F/S	
5. Recognize the value of human diversity.	F/S	F/S	F/S			F/S	F/S						F/S	
	F/S	F/S	F/S			F/S	F/S						F/S	

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**COLUMBUS STATE COMMUNITY COLLEGE
MENTAL HEALTH/CHEMICAL DEPENDENCE/MENTAL RETARDATION TECHNOLOGY
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

<i>Student Outcomes</i>	<i>Methods of Formative Assessment</i>	<i>Methods of Summative Assessment</i>
Obtain functional/psycho/social data using observation, interviewing, standardized tests, activities, and/or records review.	Data Gathering Paper, Assessment Paper, Positive Reinforcement Assignment, Tests	Treatment Plan, Video Interview
Organize data and formulate functional/psycho/social assessments.	Assessment Paper, Punishment Assignment, Tests, Mid quarter practicum evaluation	Treatment Plan, Video Interview
Develop treatment programs based on assessments of functional/psycho/social needs.	"Mock" treatment planning conference, Mid quarter practicum evaluation	Treatment Plan, Video Interview, "Mock" planning conference
Monitor and develop progress reports, social histories, and transfer/discharge summaries.	Mid quarter practicum evaluation	Field Practicum, Final Case Study
Utilize case management skills.	Mid quarter practicum evaluation	Field Practicum, Final Exam
Utilize positive behavior change strategies.	Differential Reinforcement Assignment, Tests, Mid quarter practicum evaluation	Exam Below, In-Class Activities
Use advanced counseling skills in helping relationships.	Assertive Message Paper, Mid quarter practicum evaluation, Problem Solving Paper	Video presentation of counseling skills, Student of Counselor, Final Exam
Participate as a member of an interdisciplinary process team.	Case conferencing in groups, Mid quarter practicum evaluation	Case conferences in groups
Exhibit positive professional work habits.	Mid quarter practicum evaluation	Final practicum evaluation
3. Exhibit professional characteristics of an effective helper.	Role play interviews, Classroom behavior, Mid quarter practicum evaluation	Role play interviews, Classroom behavior, Final practicum evaluation
Use professional terminology appropriate to the field of MH/CD/MR/DD.	Behavioral writing assignment, Classroom behavior, Mid quarter practicum evaluation	Exam, Final practicum evaluation
2. Think critically.	Small group discussion, Mid quarter practicum evaluation	Treatment plan formulation, Behavior plan
1. Solve problems.	Small group discussion, Differential Reinforcement Paper, Mid quarter practicum evaluation	
4. Communicate effectively.	Behavioral Writing Assignment, Mid quarter practicum evaluation	Treatment Plan, Professional Writing
5. Demonstrate interpersonal skills.	Role play interviews, classroom behavior, Mid quarter practicum evaluation	Role play interviews, classroom behavior, Final interview
6. Recognize the value of human diversity.	Role play interviews, classroom behavior, Disability Awareness workshop and reaction paper	Role play interviews, classroom behavior
7. Demonstrate life management skills.	Tests	Successful course completion with a C or better

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - MENTAL HEALTH TRACK**

Student Outcomes	ADIC R 240	ADIC R 242	ENGL 100	ADIC R 244	ADIC R 254	ADIC R 294	ADIC R 263	ADIC R 297	COMM 105	ADIC R 298
Utilize job development and job coaching skills.	F/S	F/S						F/S	F/S	
Develop and implement activities to utilize as a tool in helping relationships	F/S	F/S			F/S			F/S	F/S	
Plan for, co-lead, and process therapeutic groups.	F/S	F/S		F/S		F/S				
Teach train severely mentally disabled persons to perform activities of daily living	F/S	F/S		F/S				F/S	F/S	

COLUMBUS STATE COMMUNITY COLLEGE
MENTAL HEALTH TRACK
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

Student Outcomes	Methods of Formative Assessment	Methods of Summative Assessment	Summative Assessment
1. Utilize job development and job coaching skills.	Tests, Task Analysis, Mid-quarter practicum evaluation	Final, Practicum	Final and Evaluation
2. Develop and implement activities to utilize as a toll in helping relationships.	Tests, experiential class presentations, self-exploration projects, Mid-quarter practicum evaluation	Volunteer Service	at 18 1/2 hours and 80%
3. Plan for, co-lead, and process therapeutic groups.	Journals, Therapeutic Factors Paper, Leadership Skills Paper, Group Selection In Class Assignment, Midquarter practicum evaluation, "Flyer" creation to advertise group, Mid-quarter practicum evaluation	Exam	
4. Teach train severely mentally disabled persons to perform activities of daily living.	Mid-quarter practicum evaluation	Final practicum	

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - CHEMICAL DEPENDENCE TRACK**

Student Outcomes	MIHC R 243	MIHC R 291	ENGL 202	MIHC R 253	MIHC R 254	MIHC R 295	BIOL 117	MIHC R 265	MIHC R 296	COMM 105	WRT
Recognize and identify significant signs and symptoms of chemical dependency using a variety of assessment tools.	F/S	F/S						F/S	F/S		
Identify varying levels of care for chemical dependency treatment and common criteria for appropriate referral.					F/S			F/S	F/S		
Identify relapse dynamics/triggers and utilize a variety of intervention strategies.								F/S	F/S		
Describe the philosophy and benefits of 12-step support groups in the recovery process.	F/S	F/S						F/S			
Plan for, co-lead, and process therapeutic groups.				F/S		F/S		F/S			

COLUMBUS STATE COMMUNITY COLLEGE
CHEMICAL DEPENDENCY TRACK
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

<i>Student Outcomes</i>	<i>Methods of Formative Assessment</i>	<i>Methods of Summative Assessment</i>
Recognize and identify significant signs and symptoms of chemical dependency using a variety of assessment tools.	Biopsychosocial Paper, Mid-quarter Practicum evaluation	Final Practicum Evaluation
Identify varying levels of care for chemical dependency treatment and common criteria for appropriate referral.	Diagnostic Summary Exam, Mid-quarter Practicum evaluation	8-12 volunteer hours and Final Practicum
Identify relapse dynamics/triggers and utilize a variety of intervention strategies.	Relapse Prevention Paper, Mid-quarter Practicum evaluation	Exam, Final Practicum
Describe the philosophy and benefits of 12-step support groups in the recovery process.	Journal, Mid-quarter Practicum evaluation paper	12-Step Meeting Report, Final Practicum
Plan for, co-lead, and process therapeutic groups.	Therapeutic Factors Paper, Leadership Skills Paper, Group Selection in class paper, Mid-quarter Practicum evaluation, "Flyer" creation to advertise group	Final Exam, Final Practicum

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**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - MENTAL RETARDATION TRACK**

Student Outcomes	MHCR 241	MHCR 242	ENGL 201	MHCR 251	MHCR 255	MHCR 294	DD 112	MHCR 261	MHCR 297	COMM 105	NUM 101
Teach/train persons with MR/DD to perform activities of daily living.	F/S	F/S			F/S	F/S		F/S	F/S		
Use professional terminology appropriate to the field of MR/DD.	F/S	F/S		F/S	F/S	F/S		F/S	F/S		
Utilize a variety of habilitation techniques to teach and support persons with MR/DD.					F/S	F/S					
Utilize job development and job coaching skills to provide supported employment services to persons with MR/DD.								F/S	F/S		

COLUMBUS STATE COMMUNITY COLLEGE
MENTAL RETARDATION TRACK
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

<i>Student Outcomes</i>	<i>Methods of Formative Assessment</i>	<i>Methods of Summative Assessment</i>
1. Teach/train persons with MR/DD to perform activities of daily living.	Tests, What to Teach Assignment, Mid-quarter practicum evaluation	Final Practicum Activities and
2. Use professional terminology appropriate to the field of MR/DD.	Tests, Usage on tests and homework, Attendance at local government meeting and two page well written summary, Mid-quarter practicum evaluation	Practicum Activities Final Practicum Activities
3. Utilize a variety of habilitation techniques to teach and support persons with MR/DD.	Tests, Client Interview Assignment, Mid-quarter practicum evaluation	Final Practicum Activities and
4. Utilize job development and job coaching skills to provide supported employment services to persons with MR/DD.	Tests, Task Analysis, Mid-quarter practicum evaluation	Final Practicum Activities and

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - RESPIRATORY CARE TECHNOLOGY**

Student Outcomes	RESP 100	RESP 101	MATH 115	CHEM 111	RESP 102	BIO 115	BIO 169	ENGL 101	RESP 110	RESP 196	RESP 114	HUM 115	RESP 112	RESP 198
1. Review history data on patients medically and recommend appropriate respiratory care plan.														
2. Collect and evaluate pertinent clinical information.	F		F	F		F			F	F			F	F
3. Evaluate malfunctions of respiratory equipment.							F		F	F			F	F
4. Determine appropriateness of prescribed respiratory care plan, recommend modifications where indicated, and participate in the development of respiratory care plan.									F	F			F	F
5. Select and obtain equipment and assure cleanliness of equipment appropriate to the respiratory care plan.														
6. Assemble, check for proper function, identify malfunctions of equipment, and take action to correct malfunctions of equipment.				F	F				F	F			F	F
7. Explain planned therapy and goals to patient; maintain records and communication; and protect against patient and/or central infection.														
8. Conduct therapeutic procedures to achieve maintenance of a patient airway, including the care of artificial airways; to achieve the removal of secretions.		F					F		F	F			F	F
9. Conduct therapeutic procedures to achieve adequate spontaneous and artificial ventilation.														
10. Conduct therapeutic procedures to achieve adequate arterial and tissue oxygenation.				F					F	F			F	F
11. Evaluate and monitor patient's response to respiratory care.														
12. Make necessary modifications in therapeutic procedures, and recommend respiratory care plan modifications based on patient response.									F	F			F	F
13. Initiate and conduct, or modify respiratory care techniques in the emergency setting.														
14. Demonstrate personal and professional behaviors required for successful employment.						F		F		F				F
15. Apply and explain the principles of continuous quality improvement in the respiratory care field.														
16. Think critically.	F	F	F	F	F	F	F	F	F	F	F	F	F	F
17. Solve problems.														
18. Communicate effectively.	F	F		F		F	F	F		F		F		F
19. Demonstrate interpersonal skills.														
20. Recognize the value of human diversity.						F		F		F				F
21. Demonstrate life management skills.														

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - RESPIRATORY CARE TECHNOLOGY**

Student Outcomes	RESP 101	RESP 102	RESP 103	RESP 104	RESP 105	RESP 106	RESP 107	COMM 105	RESP 201	RESP 202	ENG 200	ASCI 101	RESP 203	RESP 204
1. Collect and evaluate pertinent clinical information.	F		F	F	F		F	F	F	F	F		S	S
4. Determine appropriateness of prescribed respiratory care plan, recommend modifications where indicated, and participate in the development of respiratory care plan.	F	F		F	F		F	F	F		F		S	S
6. Assemble, check for proper function, identify malfunctions of equipment, and take action to correct malfunctions of equipment.				F	F	F	F		F	F			S	S
8. Conduct therapeutic procedures to achieve maintenance of a patient airway, including the care of artificial airways; to achieve the removal of secretions.		F		F	F		F		F				S	S
10. Conduct therapeutic procedures to achieve adequate arterial and tissue oxygenation.				F	F	F	F		F				S	S
12. Make necessary modifications in therapeutic procedures, and recommend respiratory care plan modifications based on patient response.	F			F	F		F		F				S	S
14. Demonstrate personal and professional behaviors required for successful employment.				F	F				F					S
16. Think critically.	F			F	F	F	F		F	F				S
18. Communicate effectively.				F	F				F					S
20. Recognize the value of human diversity.				F					F					S
21. Demonstrate life management skills.														

**COLUMBUS STATE COMMUNITY COLLEGE
RESPIRATORY CARE TECHNOLOGY
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

Student Outcomes	Methods of Formative Assessment	Methods of Summative Assessment
1. Recognize and explain pathophysiology of the respiratory system and its associated disorders.	Multiple choice and short-answer questions Case studies Role plays Simulations Direct observation Self-reflection	Final exam Clinical rotations Capstone project
2. Collect and evaluate pertinent clinical information.		
3. Determine appropriateness of prescribed respiratory care plan, recommend modifications where indicated, and participate in the development of respiratory care plan.		
4. Select and obtain equipment and assure cleanliness of equipment appropriate for the respiratory care plan.		
5. Assemble, check for proper function, identify malfunctions of equipment, and take action to correct malfunctions of equipment.		
6. Explain planned therapy and goals to patient, maintain records of communication, and protect patient and prevent infection.		
7. Conduct therapeutic procedures to achieve maintenance of a patient airway, including the care of artificial airways; to achieve the removal of secretions.		
8. Conduct therapeutic procedures to achieve adequate spontaneous and artificial ventilation.		
9. Conduct therapeutic procedures to achieve adequate arterial and tissue oxygenation.		
10. Evaluate and monitor patient's response to respiratory care.		
11. Make necessary modifications in therapeutic procedures, and recommend respiratory care plan modifications based on patient response.		
12. Initiate and conduct, or modify respiratory care techniques in an emergency setting.		
13. Demonstrate personal and professional behaviors required for successful employment.		
14. Apply the principles of continuous quality improvement and quality assurance to work situations.		
15. Think critically.		
16. Solve problems.		
17. Communicate effectively.		
18. Demonstrate interpersonal skills.		
19. Recognize the value of human diversity.		
20. Demonstrate life management skills.		

EMERGENCY MEDICAL SERVICES TECHNOLOGY METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

EMT-Basic Certificate

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Most State of Ohio/National requirements to take the EMT-Basic Certification Examination.	Locally-Designed Comprehensive Exams Simulated Task Performances Actual Task Performances Skills Check List	Standardized Testing External Assessors
2. Evaluate the nature and seriousness of a patient's condition or the state of the patient's injuries and assess requirements for emergency care.	Locally-Designed Comprehensive Exams Simulated Task Performances	Standardized Testing External Assessors
3. Administer appropriate emergency care to stabilize the patient's condition.	Locally-Designed Comprehensive Exams Simulated Task Performances Skills Check List	Standardized Testing External Assessors
4. Lift, move, position, and otherwise handle the patient in such a way as to minimize discomfort and further injury.	Simulated Task Performances Skills Check List	Standardized Testing External Assessors
5. Think critically.	Simulated Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
6. Solve problems.	Simulated Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
7. Communicate effectively.	Simulated Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
8. Demonstrate interpersonal skills.	Simulated Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
9. Recognize the value of human diversity.	Simulated Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
10. Demonstrate life management skills.	Simulated Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors

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COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ EMERGENCY MEDICAL SERVICE TECHNOLOGY

EMT - Basic Certificate

PROGRAM OUTCOMES	EMS F/S
1. Meet State of Ohio/National requirements to take the EMT-Basic Certification Examination.	F/S
2. Evaluate the nature and seriousness of a patient's condition or the state of the patient's injuries and assess requirements for emergency care.	F/S
3. Administer appropriate emergency care to stabilize the patient's condition.	F/S
4. Lift, move, position, and otherwise handle the patient in such a way as to minimize discomfort and further injury.	F/S
5. Think critically.	F/S
6. Solve problems.	F/S
7. Communicate effectively.	F/S
8. Demonstrate interpersonal skills.	F
9. Recognize the value of human diversity.	F
10. Demonstrate life management skills.	F

COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ EMERGENCY MEDICAL SERVICE TECHNOLOGY

EMT - Intermediate Certificate

PROGRAM OUTCOMES	EMS
1. Meet State of Ohio/National requirements to take the EMT-Intermediate Certification Examination.	F/S
2. Perform all duties of an EMT-Basic.	S
3. Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.	F/S
4. Think critically.	F/S
5. Solve problems.	F/S
6. Communicate effectively.	F/S
7. Demonstrate interpersonal skills.	F
8. Recognize the value of human diversity.	F
9. Demonstrate life management skills.	F

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EMERGENCY MEDICAL SERVICES TECHNOLOGY METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

EMT-Intermediate Certificate

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Most State of Ohio/National requirements to take the EMT-Intermediate Certification Examination.	Locally-Designed Comprehensive Exams Skills Check List Simulated Task Performances Actual Task Performances	Standardized Testing External Assessors
2. Perform all duties of an EMT-Basic.	Locally-Designed Comprehensive Exams Skills Check List Simulated Task Performances Actual Task Performances	Standardized Testing External Assessors
3. Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.	Locally-Designed Comprehensive Exams Skills Check List Simulated Task Performances Actual Task Performances	Standardized Testing External Assessors
4. Think critically.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
5. Solve problems.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
6. Communicate effectively.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
7. Demonstrate interpersonal skills.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
8. Recognize the value of human diversity.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
9. Demonstrate life management skills.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors

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COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ EMERGENCY MEDICAL SERVICE TECHNOLOGY

EMT - Paramedic Certificate

PROGRAM OUTCOMES	EMS 211	EMS 281	EMS 291	EMS 212	EMS 282	EMS 292	EMS 213	EMS 283	EMS 293	EMS 214	EMS 284	EMS 294
1. Meet State of Ohio/National requirements to take the EMT-Paramedic Certification Examination.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
2. Perform all duties of the EMT-Basic.	S	F/S	F/S	S	F/S	F/S	S	F/S	F/S	S	F/S	F/S
3. Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
4. Initiate and continue emergency medical care under medical control, including recognizing presenting conditions and initiate appropriate invasive and noninvasive therapies (e.g., surgical and medical emergencies, airway and respiratory problems, cardiac dysrhythmias, cardiopulmonary arrest, and psychological crisis), and assessing the response of the patient to that therapy.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
5. Think critically.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
6. Solve problems.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
7. Communicate effectively.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
8. Demonstrate interpersonal skills.	F	F	F	F	F	F	F	F	F	F	F	F
9. Recognize the value of human diversity.	F	F	F	F	F	F	F	F	F	F	F	F
10. Demonstrate life management skills.	F	F	F	F	F	F	F	F	F	F	F	F

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EMERGENCY MEDICAL SERVICES TECHNOLOGY METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

EMT-Paramedic Certificate

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Most State of Ohio/National requirements to take the EMT-Paramedic Certification Examination.	Locally-Designed Comprehensive Exams Skills Check Sheets Simulated Task Performances Actual Task Performances	Standardized Testing External Assessors
2. Perform all duties of the EMT-Basic.	Locally-Designed Comprehensive Exams Skills Check Sheets Simulated Task Performances Actual Task Performances	Standardized Testing External Assessors
3. Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.	Locally-Designed Comprehensive Exams Skills Check Sheets Simulated Task Performances Actual Task Performances	Standardized Testing External Assessors
4. Initiate and continue emergency medical care under medical control, including recognizing presenting conditions and initiate appropriate invasive and noninvasive therapies (e.g., surgical and medical emergencies, airway and respiratory problems, cardiac dysrhythmias, cardiopulmonary arrest, and psychological crisis), and assessing the response of the patient to that therapy.	Locally-Designed Comprehensive Exams Skills Check Sheets Simulated Task Performances Actual Task Performances	Standardized Testing External Assessors
5. Think critically.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
6. Solve problems.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
7. Communicate effectively.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
8. Demonstrate interpersonal skills.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
9. Recognize the value of human diversity.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors
10. Demonstrate life management skills.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors

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COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ EMERGENCY MEDICAL SERVICE TECHNOLOGY

EMS Associate Degree

PROGRAM OUTCOMES	EMS 126	EMS 121	EMS 122	EMS 123	EMS 125	EMS 124	EMS 127	EMS 220	EMS XXX	ENGL 101	BIO XXX
1. Perform all of the duties included in EMT-A and EMT-Paramedic training, after successful completing State of Ohio/ National Certification Exams in these two areas.	F/S	F/S	F/S	F/S	F/S	F	F/S	F/S	F/S		
2. Demonstrate knowledge of the legal aspects of Emergency Medical Service.			F/S								
3. Prepare for and deal with disasters, including those involving hazardous materials.					F/S						
4. Explain the complexities of Emergency Medical Service.		F/S									
5. Think critically.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F	F
6. Solve problems.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F	F
7. Communicate effectively.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F	F
8. Demonstrate interpersonal skills.	F	F	F	F	F	F	F	F	F	F	F
9. Recognize the value of human diversity.	F	F	F	F	F	F	F	F	F	F	
10. Demonstrate life management skills.	F	F	F	F	F	F	F	F	F	F	

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COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ EMERGENCY MEDICAL SERVICE TECHNOLOGY

EMS Associate Degree

PROGRAM OUTCOMES	MATH 102	BIO 114	ENGL 102	COMM 105	ENGL 200	BIO 161	BIO 169	SSCI XXX	HUM XXX		
1. Perform all of the duties included in EMT-A and EMT-Paramedic training, after successful completing State of Ohio/National Certification Exams in these two areas.											
2. Demonstrate knowledge of the legal aspects of Emergency Medical Service.											
3. Prepare for and deal with disasters, including those involving hazardous materials.		F									
4. Explain the complexities of Emergency Medical Service.											
5. Think critically.	F/S	F	F/S	F/S	F/S	F	F	F/S	F/S		
6. Solve problems.	F/S	F	F/S	F/S	F/S	F	F	F/S	F/S		
7. Communicate effectively.	F	F	F/S	F/S	F/S	F	F	F/S	F/S		
8. Demonstrate interpersonal skills.		F	F	F	F	F	F	F	F		
9. Recognize the value of human diversity.		F	F	F	F			F	F		
10. Demonstrate life management skills.		F	F	F	F			F	F		

EMERGENCY MEDICAL SERVICES TECHNOLOGY METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

EMT Associate Degree

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Perform all of the duties included in EMT-A and EMT-Paramedic training, after successfully completing State of Ohio/National Certification Exams in these two areas.	Locally-Designed Comprehensive Exams Skills Check Sheets Simulated Task Performance	Standardized Testing External Assessors
2. Demonstrate knowledge of the legal aspects of Emergency Medical Service.	Locally-Designed Comprehensive Exams Group Problem-Solving Tasks	Locally-Designed Comprehensive Exam
3. Prepare for and deal with disasters, including those involving hazardous materials	Group Problem-Solving Tasks Locally-Designed Comprehensive Exams	Locally-Designed Comprehensive Exam
4. Explain the complexities of Emergency Medical Service.	Research Projects Interviews Locally-Designed Comprehensive Exams Group Problem-Solving Tasks	Locally-Designed Comprehensive Exam
5. Think critically.	Simulated Scenarios	Simulated Scenarios (Locally Designed)
6. Solve problems.	Simulated Scenarios	Simulated Scenarios (Locally Designed)
7. Communicate effectively.	Simulated Scenarios	Simulated Scenarios (Locally Designed)
8. Demonstrate interpersonal skills.	Simulated Scenarios	Simulated Scenarios (Locally Designed)
9. Recognize the value of human diversity.	Simulated Scenarios	Simulated Scenarios (Locally Designed)
10. Demonstrate life management skills.	Simulated Scenarios	Simulated Scenarios (Locally Designed)

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COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ MULTI-COMPETENCY HEALTH TECHNOLOGY
HISTOLOGY OPTION

STUDENT OUTCOMES	MULT 169	MULT 160	MULT 161	MULT 162	MULT 163	MULT 164	MULT 165-166	MULT 167	MULT 168
1. Identify the source of the tissue and correlate tissue identification with function	F	F/S	F/S	F/S	F/S	F/S	S	S	S
2. Prepare stain solutions and fix tissue while utilizing universal precautions and following OSHA and CDC guidelines.	F/S	—	F/S	F/S	F/S	F/S	S	S	S
3. Prepare and stain slides of organs or tissues safely and correctly for examination by a pathologist.	—	—	—	—	F/S	F/S	S	S	S
4. Identify inadequate staining preparations and make corrections to improve quality of slides to the satisfaction of the pathologist.	—	—	F	F	F/S	F/S	S	S	S
5. Meet requirements to take the certification exam in histology administered by the American Society of Clinical Pathologists.	S	—	F/S	F/S	F/S	F/S	S	S	S
6. Think critically.	F	F	F	F	F	F	S	S	S
7. Solve problems.	F	F	F	F	F	F	S	S	S
8. Communicate effectively.	F	F	F	F	F	F	S	S	S
9. Demonstrate interpersonal skills.	F	F	F	F	F	F	S	S	S
10. Recognize the value of human diversity.	F	F	F	F	F	F	S	S	S
11. Demonstrate life management skills.	F	F	F	F	F	F	S	S	S

COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ MULTI-COMPETENCY HEALTH TECHNOLOGY
HISTOLOGY OPTION

STUDENT OUTCOMES	MATH 102	BIO 161	BIO 169	CHEM 111	BIO 133				
1. Identify the source of the tissue and correlate tissue identification with function		F	F		F				
2. Prepare stain solutions and fix tissue while utilizing universal precautions and following OSHA and CDC guidelines.	F		F	F	F				
3. Prepare and stain slides of organs or tissues safely and correctly for examination by a pathologist.		F	F	F	F				
4. Identify inadequate staining preparations and make corrections to improve quality of slides to the satisfaction of the pathologist.	F	F	F	F	F				
5. Meet requirements to take the certification exam in histology administered by the American Society of Clinical Pathologists.	F	F	F	F	F				
6. Think critically.	F	F	F	F	F				
7. Solve problems.	F	F	F	F	F				
8. Communicate effectively.	F	F	F	F	F				
9. Demonstrate interpersonal skills.	F	F	F	F	F				
10. Recognize the value of human diversity.	F	F	F	F	F				
11. Demonstrate life management skills.	F	F	F	F	F				

MULTI-COMPETENCY HEALTH TECHNOLOGY - HISTOLOGY OPTION
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Identify the source of the tissue and correlate tissue identification with function.	Task Performance with Guidance Practical Exams Written Exams Prepared Slide Assessment	Comprehensive Practical Exam Mock Registry Comprehensive Final Exam Clinical Experience Clinical Evaluation Case Study Presentation
2. Prepare stain solutions and fix tissue while utilizing universal precautions and following OSHA and CDC guidelines.	Task Performance with Evaluation Practical Exams Quizzes Written Exams	Comprehensive Final Exam Clinical Experience Registry Slide Preparation Clinical Evaluation Case Study Presentation
3. Prepare and stain slides of organs or tissues safely and correctly for examination by a pathologist.	Task Performance with Evaluation Practical Exams Written Exams Practical Exams	Comprehensive Final Exam Clinical Evaluation Mock Registry Registry Slide Preparation Clinical Experience Case Study Presentation
4. Identify inadequate staining preparations and make corrections to improve quality of slides to the satisfaction of the pathologist.	Task Performance with Guidance Written Exams	Clinical Experience Registry Slide Preparation Comprehensive Final Exam Case Study Presentation
5. Meet requirements to take the certification exam in histology administered by the American Society of Clinical Pathologists.	Written Exams Practical Exams	Clinical Experience Mock Registry Clinical Evaluation Registry Slide Preparation
6. Think critically.		
7. Solve problems.		
8. Communicate effectively.		
9. Demonstrate interpersonal skills.		
10. Recognize the value of human diversity.		
11. Demonstrate life management skills.		

*Degrees - These
2 together*

**COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ MULTI-COMPETENCY HEALTH TECHNOLOGY**

STUDENT OUTCOMES	MULT 101	MULT 102	MULT 103	MULT 171	MULT 172	MATH 102	BIO 161	BIO 169	CHEM 111	BIO 133	
1. Spell, pronounce, use medical terminology correctly.	F/S	F/S					F/S	F/S		F/S	
2. Recognize life-threatening situations and administer necessary first aid and/or CPR.		F/S	F/S				F	F	F	F	
3. Demonstrate an understanding of medical ethics, medical legal responsibilities, and safety procedures, as well as professional attitudes.		F/S	F/S	F/S	F/S		F	F			
4. Understand and practice universal precautions while conforming to the most current OSHA and CDC guidelines.		F/S	F/S				F	F		F	
5. Present to community groups the psycho, social, legal, and epidemiologic issues surrounding the HIV infection, meeting the requirements for the Red Cross HIV/AIDS Instructor Certification.				F/S	F/S						
6. Perform Standard First Aid as required by the American Red Cross.			F/S								
7. Demonstrate entry level competence in two program options.	TO	FOLLOW				See	Appr	opriate	Option		
8. Think critically.	F	F	F	F	F	F/S	F	F	F	F	
9. Solve problems.	F	F	F	F	F	F/S	F	F	F	F	
10. Communicate effectively.	F	F	F	F	F	F	F	F	F	F	
11. Demonstrate interpersonal skills.	F	F	F	F	F		F	F	F	F	
12. Recognize the value of human diversity.	F	F	F	F	F		F	F	F	F	
13. Demonstrate life management skills.	F	F	F	F	F	F	F	F	F	F	

**MULTI-COMPETENCY HEALTH TECHNOLOGY
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Spell, pronounce, use medical terminology correctly.	Weekly Quizzes Midterm Examination Verbal Repetition with Video Tape Task Performance with Faculty Direction	Comprehensive Final
2. Recognize life-threatening situations and administer necessary first aid and/or CPR.	Skills Check-Off List Task Performance with Faculty Direction and Observation Interactive Task Performance and Problem Solving	Skills Testing on Mannequins Written Final Examination
3. Demonstrate an understanding of medical ethics, medical legal responsibilities, and safety procedures, as well as professional attitudes.	Skills Check-Off List Quizzes Interactive Task Performance and Problem Solving Write Reaction Papers Written Examination Teach Backs	Written Final Examination CPR Skills Test on Mannequin Final Teach Back
4. Understand and practice universal precautions while conforming to the most current OSHA and CDC guidelines.	Task Performance with Faculty Direction Skills Check-Off List Interactive Task Performance and Problem Solving	Skills Test on Mannequin Written Final Examination
5. Present to community groups the psycho, social, legal, and epidemiologic issues surrounding the HIV infection, meeting the requirements for the Red Cross HIV/AIDS Instructor Certification.	Three Reaction Papers Written Midterm Teach Backs Interactive Exercises Instructor Candidate Training	Final Written Examination Final Teach Backs
6. Perform Standard First Aid as required by the American Red Cross.	Skills Check-Off List Interactive Task Performance and Problem Solving	Written Final Examination Skills Test on Mannequin
7. Demonstrate entry level competence in two program options.	To Follow	To Follow
8. Think critically.		
9. Solve problems.		
10. Communicate effectively.		
11. Demonstrate interpersonal skills.		

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12. Recognize the value of human diversity.		
13 Demonstrate life management skills.		

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F = FORMATIVE ASSESSMENT S = SUMMATIVE ASSESSMENT

COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ MULTI-COMPETENCY HEALTH TECHNOLOGY
HOME HEALTH AIDE

STUDENT OUTCOMES	MULT 122											
1. Work for an organization under professional supervision in the role of Home Health Aide.	S											
2. Understand and work with various client populations.	F/S											
3. Identify and practice skills in home management, personal care, and interpersonal communication.	F/S											
4. Meet the requirements published by the National Home Caring Council.	S											
5. Think critically.	F											
6. Solve problems.	F/S											
7. Communicate effectively.	F											
8. Demonstrate interpersonal skills.	F											
9. Recognize the value of human diversity.	F											
10. Demonstrate life management skills.	F											

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F = FORMATIVE ASSESSMENT S = SUMMATIVE ASSESSMENT

**MULTI-COMPETENCY HEALTH TECHNOLOGY - HOME HEALTH AIDE
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Work for an organization under professional supervision in the role of Home Health Aide.		Clinical Practicum
2. Understand and work with various client populations.	Weekly Quizzes Case Studies	Clinical Practicum
3. Identify and practice skills in home management, personal care, and interpersonal communication.	Written Weekly Quizzes Case Studies	Clinical Practicum National Skills Test National Written Test
4. Meet the requirements published by the National Home Caring Council.		National Skills Test National Written Test
5. Think critically.		
6. Solve problems.		
7. Communicate effectively.		
8. Demonstrate interpersonal skills.		
9. Recognize the value of human diversity.		
10. Demonstrate life management skills.		

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COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ MULTI-COMPETENCY HEALTH TECHNOLOGY
EKG OPTION

STUDENT OUTCOMES	MULT 110												
1. Position leads and use electrocardiographic equipment correctly.	F/S												
2. Obtain and prepare an electrocardiography recording for analysis by a physician.	F/S												
3. Recognize and correct technical errors in an electrocardiography recording.	F/S												
4. Recognize and call attention to life-threatening abnormalities of an electrocardiograph.	F/S												
5. Provide safe, professional direct patient contact, specifically in the areas of infection control, electrical safety, privacy and environmental safety.	F/S												
5. Think critically.	F/S												
6. Solve problems.	F/S												
7. Communicate effectively.	F												
8. Demonstrate interpersonal skills.	F												
9. Recognize the value of human diversity.	F												
10. Demonstrate life management skills.	F												

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**MULTI-COMPETENCY HEALTH TECHNOLOGY - EKG OPTION
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Position leads and use electrocardiographic equipment correctly.	Student to Student Task Performance Midterm Examination	Clinical Experience Clinical Evaluation Final Examination Tally Sheets
2. Obtain and prepare an electrocardiography recording for analysis by a physician.	Student to Student Task Performance Midterm Examination	Clinical Experience Clinical Evaluation Tally Sheets
3. Recognize and correct technical errors in an electrocardiography recording.	Student to Student Task Performance Midterm Examination	Clinical Experience Clinical Evaluation Final Examination
4. Recognize and call attention to life-threatening abnormalities of an electrocardiograph.	Student to Student Task Performance Midterm Examination	Clinical Experience Clinical Evaluation Final Examination
5. Provide safe, professional direct patient contact, specifically in the areas of infection control, electrical safety, privacy and environmental safety.	Classroom Task Performance Written Exam	Clinical Experience Final Examination
5. Think critically.		
6. Solve problems.		
7. Communicate effectively.		
8. Demonstrate interpersonal skills.		
9. Recognize the value of human diversity.		
10. Demonstrate life management skills.		

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F = FORMATIVE ASSESSMENT S = SUMMATIVE ASSESSMENT

COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ MULTI-COMPETENCY HEALTH TECHNOLOGY
HEALTH CARE MANAGER

STUDENT OUTCOMES	BMGT 218	MULT 270	MULT 272	MULT 274	MULT 276						
1. Apply theories and principles of human resource management to real life health care situations.	F/S	F/S			F/S						
2. Generate action plans, implementation activities, and evaluation processes to assure continuous quality improvement in health care institutions.				F/S							
3. Apply strategies, processes and current trends in health care management.	F/S	F/S	F/S	F/S	F/S						
4. Understand risk management and the underlying legal principles inherent in the health care system.					F/S						
5. Think critically.	F	F	F	F	F						
6. Solve problems.	F/S	F/S	F/S	F/S	F/S						
7. Communicate effectively.	F	F	F	F	F						
8. Demonstrate interpersonal skills.	F	F	F	F	F						
9. Recognize the value of human diversity.	F	F	F	F	F						
10. Demonstrate life management skills.	F	F	F	F	F						

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F = FORMATIVE ASSESSMENT S = SUMMATIVE ASSESSMENT

**MULTI-COMPETENCY HEALTH TECHNOLOGY - HEALTH CARE MANAGER
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Apply theories and principles of human resource management to real life health care situations.	Midterm Examination Investigative Paper Assessment of Past Experience Paper	Written Final Examination Group Project Presentation Interviewing/Role Playing Summary Paper
2. Generate action plans, implementation activities, and evaluation processes to assure continuous quality improvement in health care institutions.	Midterm Examination Individual Investigative Paper	Final Examination Group Project Presentation
3. Apply strategies, processes and current trends in health care management.	Midterm Examination Three Individual Projects Class Participation (Graded) Weekly Written Investigative Paper	Written Final Examination Summary Paper Final Project Role Playing Group Discussions Group Project Presentations
4. Understand risk management and the underlying legal principles inherent in the health care system.	Weekly Topic Paper Class Participation (Graded) Midterm Examination	Final Examination Summary Paper
5. Think critically.		
6. Solve problems.		
7. Communicate effectively.		
8. Demonstrate interpersonal skills.		
9. Recognize the value of human diversity.		
10. Demonstrate life management skills.		

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F = FORMATIVE ASSESSMENT S = SUMMATIVE ASSESSMENT

COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ MULTI-COMPETENCY HEALTH TECHNOLOGY
NURSES AIDE

STUDENT OUTCOMES	MULT 120												
1. Effectively communicate in the health care setting.	F/S												
2. State and demonstrate principles of medical asepsis and universal precautions.	F/S												
3. Identify and demonstrate the principles of safe resident care.	F/S												
4. Discuss and demonstrate correct basic nursing skills.	F/S												
5. Meet the requirements set forth in the Omnibus Budget Reconciliation Act of 1987.	S												
6. Think critically.	F												
7. Solve problems.	F/S												
8. Communicate effectively.	F												
9. Demonstrate interpersonal skills.	F												
10. Recognize the value of human diversity.	F												
11. Demonstrate life management skills.	F												

**MULTI-COMPETENCY HEALTH TECHNOLOGY - NURSES AIDE
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Effectively communicate in the health care setting.	Written Quizzes Practice Skills in Skills Laboratory Use mannequins and/or Peers	Written Examination Clinical Practicum using Skills Checklist State Test both Written and Skills
2. State and demonstrate principles of medical asepsis and universal precautions.	Written Quizzes Practice Skills in Skills Laboratory Use mannequins and/or Peers	Written Examination Clinical Practicing using Skills Checklist State Test both Written and Skills
3. Identify and demonstrate the principles of safe resident care.	Written Quizzes Practice Skills in Skills Laboratory Use mannequins and/or Peers	Written Examination Clinical Practicing using Skills Checklist State Test both Written and Skills
4. Discuss and demonstrate correct basic nursing skills.	Written Quizzes Practice Skills in Skills Laboratory Use mannequins and/or Peers	Written Examination Clinical Practicing using Skills Checklist State Test both Written and Skills
5. Meet the requirements set forth in the Omnibus Budget Reconciliation Act of 1987.	Written Quizzes Practice Skills in Skills Laboratory Use mannequins and/or Peers	Written Examination Clinical Practicing using Skills Checklist State Test both Written and Skills
6. Think critically.		
7. Solve problems.		
8. Communicate effectively.		
9. Demonstrate interpersonal skills.		
10. Recognize the value of human diversity.		
11. Demonstrate life management skills.		

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COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX ♦ MULTI-COMPETENCY HEALTH TECHNOLOGY
PHLEBOTOMY OPTION

STUDENT OUTCOMES	MULT 115	MULT 114											
1. Collect a quality blood specimen by venipuncture and capillary puncture using the appropriate collection equipment with minimum trauma to the patient.	F/S	S											
2. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care professionals.	F/S	S											
3. Identify problems which may occur during blood collection and handle them effectively and correctly in a professional manner.	F/S	S											
4. Perform all duties utilizing universal precautions while conforming to current OSHA standards and CDC guidelines.	F/S	S											
5. Meet requirements to take a national certification exam in phlebotomy.	F/S	S											
5. Think critically.	F	F/S											
6. Solve problems.	F/S	F/S											
7. Communicate effectively.	F	F											
8. Demonstrate interpersonal skills.	F	F											
9. Recognize the value of human diversity.	F	F											
10. Demonstrate life management skills.	F	F											

**MULTI-COMPETENCY HEALTH TECHNOLOGY - PHLEBOTOMY OPTION
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT**

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Collect a quality blood specimen by venipuncture and capillary puncture using the appropriate collection equipment with minimum trauma to the patient.	Students Draw Each Other Quizzes Midterm Written Exam Midterm Clinical Evaluation	Clinical Experience Venipuncture Final Practical Capillary Final Practical Final Clinical Evaluation Final Midterm Exam Daily Tally Sheets
2. Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care professionals.	Midterm Written Exam Student Draw Each Other Midterm Clinical Evaluation	Clinical Experience Final Clinical Evaluation Final Practicals
3. Identify problems which may occur during blood collection and handle them effectively and correctly in a professional manner.	Quizzes Midterm Exam Midterm Clinical Evaluation Students Draw Each Other	Final Written Exam Clinical Experience Final Clinical Evaluation Daily Tally Sheets
4. Perform all duties utilizing universal precautions while conforming to current OSHA standards and CDC guidelines.	Students Draw Each Other Quizzes Midterm Exam	Final Written Exam Clinical Experience Final Practicals
5. Meet requirements to take a national certification exam in phlebotomy.	Students Draw Each Other Written Exams	Clinical Experience Final Clinical Evaluation Daily Tally Sheets
5. Think critically.		
6. Solve problems.		
7. Communicate effectively.		
8. Demonstrate interpersonal skills.		
9. Recognize the value of human diversity.		
10. Demonstrate life management skills.		

HEART of OHIO TECH PREP CONSORTIUM

1996

Multi-Competency Health Technologies Model

PART V: Labor Market Data

TABLE 1
LABOR MARKET PROJECTIONS FOR
PROPOSED TECH PREP MODEL CAREER CLUSTERS
1991-2000*

OCCUPATIONAL AREA	ANNUAL RATE OF CHANGE (%)		TOTAL ANNUAL OPENINGS	
	OHIO	SDA 16	OHIO	SDA 16
Multi-Competency Health Technology				
Nurse Aide	2.7	2.6	2609	362
Home Health Aide	4.0	4.7	516	90
All other	2.4	2.6	357	66
Civil Engineering Technology				
Civil Construction Manager	1.5	1.9	128	26
Surveyor	1.0	1.3	38	8
Drafter	1.1	1.5	769	128
Environmental Technology				
Plant/System Operations	0.1	0.5	360	46
Physical/Life Sciences Technician	0.7	1.2	276	44
Construction Management Technology				
Construction Manager	0.8	0.7	119	29
Graphic Communications Technology				
Graphic Designer	2.1	2.1	607	54
Photographer	0.9	1.8	181	31
Technical Communications Technology				
Technical Writer	1.3	2.3	68	11
Editor	1.8	1.8	247	39

*Ohio Bureau of Employment Services, 1991-2000 Labor Market Projections.

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1996

Multi-Competency Health Technologies Model

PART VI:
Advisory/Review Committee Members

**Central Ohio Tech Prep Consortium
BUSINESS-INDUSTRY VALIDATION MEETING
for
MULTI-COMPETENCY HEALTH TECHNOLOGIES**

**Tuesday, April 23, 1996
6:00 - 8:00 p.m.
Columbus State Community College
Union Hall Rooms 137-138-139**

Industry Participants

David Anderson
Pharmacist
Revco Pharmacy, Bexley

Pam Beech
Program Coordinator
OSU Medical Center, Columbus

Judy Brickman
Medical Technologist, MTASCP
Riverside Hospital, Columbus

Donna Brust, R.N., M.S., R.N.C.
Nursing Staff Development Specialist
OSU University Hospitals

Mary Buckley
Co-Director of Workforce Planning
Mt. Carmel Medical Center, Columbus

Patricia Burger, R.N.
Nurse Coordinator for Patient Education
Veterans Admin. Medical Ctr., Chillicothe

Gerald Collins
Laboratory Training Coordinator
Mt. Carmel Medical Center, Columbus

Barbara Connor
Chairperson, Clinical Support Services
Mt. Carmel Medical Center, Columbus

Cathy Corcoran, R.N., D.O.N.
Heartland of Chillicothe

Starling Covington
Phlebotomy Supervisor
Fairfield Medical Center, Lancaster

Susan Davis
Phlebotomy Supervisor
Grant Medical Center, Columbus

Paula Detterman, R.N., D.O.N.
Berger Hospital, Circleville

Christopher Dillinger
Phlebotomy Supervisor
St. Ann's Hospital, Westerville

Kathy Entler, R.N., D.O.N.
Pike Community Hospital, Waverly

Marjorie Hoffman, R.N., MN Ed.
Assistant Director, Nursing Education
Childrens Hospital, Columbus

Rebecca Katz, R.N., M.A., CCR.N.
Director, Nursing Education
Grant Medical Center, Columbus

Clare Lewandoski, Ph.D.
Chairperson, Health Services (retired)
Columbus State Community College

Patricia Marsolo
MT Medical Technologist
Grant Hospital, Columbus

Barbara Montgomery, R.N., M.S.N.
Assistant Director,
Assoc. of Science in Nursing Program
Ohio University - Chillicothe

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Director, Patient Care Redesign
Mount Carmel Health, Columbus

Marna Petrie
Nursing Administration
Park Medical Center, Columbus

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Assistant Director, Ambulatory Services
Childrens' Hospital, Columbus

Marge Pizzuto, R.N.
OSU University Hospitals, Columbus

Rae Ann Porter, R.N.
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Mt. Carmel West Hospital, Columbus

Teresa Ryan
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Medical Center Hospital, Chillicothe

Jackie Schwerling
St. Ann's Hospital, Westerville

Richard Sobota
CEO
Pike Community Hospital, Waverly

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Medical Center Hospital, Chillicothe

Brenda Stritmatter, R.N., CEN
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Berger Hospital, Circleville

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Mt. Carmel Medical Center, Columbus

Ruth Yerardi, R.N.
Associate Chief, Nursing Service
Veterans Admin. Medical Ctr., Chillicothe

School and College Participants

Jay Benedict
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South-Western City Schools

Anne Conner
Instructor, Health programs
Fairfield Career Center

Karen Dearbaugh
Career Development Coordinator
Eastland Vocational School District

Ross Dunlap (Co-Host)
Associate Superintendent
Eastland Vocational School District

Connie Faddis (Co-Host)
Director
Central Ohio Tech Prep Consortium

Julie Frank
School Nurse
Grove City High School

Vicki Johnson
Instructor, Health programs
Fairfield Career Center

Bill Jones
Coordinator, Guidance Services
Pickaway-Ross JVSD

Lynn Lakomia
Instructor, Health programs
Columbus Public Schools

Pat McGee
Director
Fairfield Career Center

Elaine McGraw (Recorder)
Secretary
Central Ohio Tech Prep Consortium

Gary McKenzie
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Columbus Public Schools

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Columbus State Community College

Ginger Rose, Ph.D.
Tech Prep & Vocational Ed. Supervisor
Westerville City Schools

Mike Snider, Ph.D.
Vice President for Academic Affairs
Columbus State Community College

Tom Snyder, Ph.D.
Superintendent
Pickaway-Ross JVSD

Mary VanSickle
Instructor, Health programs
Pickaway-Ross JVSD

Jan Wagner, Ph.D. (Co-Host)
Dean, Health & Human Services Division
Columbus State Community College

HEART of OHIO TECH PREP CONSORTIUM

1996

Multi-Competency Health Technologies Model

PART VII: Program Application

TECH PREP HEALTH TECHNOLOGIES AUDIT
(plus Tech Prep Program Application Questions No. 5 & 6)

Patient Care-Based Programs

Tech Prep Consortium Heart of Ohio Tech Prep Consortium

College Columbus State Community College

High School(s)/Vocational School(s) Fairfield Career Center (Eastland VEPD)

Proposed Tech Prep Health Technology Program:

Multi-Competency Health Technologies

Contact Person Connie Faddis, TP Director Date October 1996

The intent of this audit is to assure that issues and concerns pertinent to the success of these programs are addressed by each consortium. Please answer the following questions based on decisions and actions of your steering/governing committee:

1. Provide support for the proposed program based on labor market information, employment trends, and anticipated changes in health care.

The Multi-Competency Health Technologies model is uniquely designed to prepare students for technical positions in the evolving health industry. Students completing the secondary portion of the program will, according to area health industry representatives (through an extensive labor market survey and an industry program validation process for program development), have a mastered core of patient care competencies and additional elective competencies to qualify them for an array of entry-level positions in the health care industry.

The postsecondary part of the program, the Tech Prep associate degree option in Multi-Competency Health Technology, will enable students to both broaden and deepen their skills as a multi-competent health technician, which health industry representatives confirm is the area of greatest and most probable job growth in the fast-changing fields of health care. Columbus State Community College's health-related programs routinely monitor changes in the labor market through program advisory committees and other forms of intensive communication with the industry (e.g., with administrators at clinical placement sites, active involvement with industry boards, accrediting agencies, professional associations, and the like).

Specific results from the Tech Prep program labor market survey, conducted in late Winter 1996, are as follows: Of over 50 surveys sent out to a broad array of health care organizations, 19 usable surveys were returned. Nine of these organizations

employ under 200 workers; ten of them employ over 200 workers. Only one works with a bargaining unit. Seventeen respondents agreed that there is a trend in the industry toward hiring employees who have multiple competencies in health technologies. Several of these respondents noted that multiple competence is "very necessary in smaller organizations." In total, responding organizations currently employ 519 persons in positions that would fit within the broad classification of Multi-Competent Health Technician; respondents estimate a need for an additional 142 workers in this category over the next five years. Employers expect to fill the majority of these new openings from outside of their organizations.

In addition to the local labor market survey, a series of business-industry program validation activities engaged 36 regional industry representatives in an in-depth review of the program competencies list as well as conversations about employment opportunities for both high school and associate degree Tech Prep graduates. These industry people confirmed the findings reported above.

2. Identify potential associate degree/apprenticeship exit occupations for the proposed Tech Prep Health Technology Program.

Multi-Competent Health Technician, Patient Care Technician, Histology Technician, Medical Transcriptionist, Phlebotomy Technician, Nurse Aide, Home Health Aide, Home Care Manager, EKG Technician, EMT/Paramedic, Medical Assistant.

3. Identify potential high school exit occupations for the proposed Tech Prep Health Technology Program.

Nurse Assistant, Home Health Aide, Ward Clerk.

4. What are the licensure, certification, and accreditation regulations that will affect the proposed program development?

The development process for the Multi-Competency Health Technologies Tech Prep model attended closely, from the beginning, to accreditation and certification requirements relevant to the program and program competencies. Assessment of student mastery of critical core technical competencies taught in grade 11 and options to be offered in grade 12 make use of state, national, or other nationally recognized certification instruments and procedures. All instructors of such content will be appropriately credentialed and prepared. (See the attached sheet, Fairfield Career Center's Competency Outline, for more detailed information on national, state, and association certifications included in program assessment requirements.)

The Multi-Competency Health Technology program at Columbus State Community College carries the following accreditations: National Accrediting Agency for Clinical Laboratory Sciences (histology, phlebotomy), Commission on Accreditation of Allied Health Education Programs (EMT/paramedic), and the Ohio Department of Health (nurse aide training). College faculty have and maintain all necessary

certifications to teach in their areas of specialty.

In addition, the Tech Prep program will convene a Consortium-wide advisory committee in the Fall of 1996 for the Multi-Competency Health Technologies model. This committee, together with the local school-based and college program advisory committees, will review the program on a regular basis and advise the Consortium partners regarding any revisions to content or assessment that may be needed to respond to changing regulations/requirements in the industry.

5. Describe how your consortium plans to deal with the issues of waiting lists and changing program admission requirements.

Students enrolling in the Consortium's Multi-Competency Health Technologies program in grade 11 will automatically be considered applicants to Columbus State's Multi-Competency Health Technology degree program (Tech Prep option), and will be admitted as such to the college program (within 1 calendar year of high school graduation, assuming satisfactory completion of the secondary competencies) under whatever Multi-Competency Health Technology college program admission criteria are in force at that time. (One objective of the Consortium advisory committee for this program will be to identify any changes in the secondary curriculum that may be needed to keep that curriculum current with admissions requirements of the receiving college program.)

Although the Tech Prep pathway into Columbus State specifically aims students at the Multi-Competency Health Technology program (Tech Prep option), the college recognizes that some Tech Prep high school students may decide to apply to one of its other (non-Tech Prep) college health technology programs (e.g., Nursing Technology, Surgical Technology). To facilitate this flexibility, the college's Health and Human Services Division has agreed to place Tech Prep high school students on any waiting lists for other Columbus State health technology programs at the time that the students successfully pass the NATP Nurse Aide Training Program state certification. For most students, this is expected to occur near the end of grade 11.

Finally, because the Consortium has recently expanded to include Ohio University - Lancaster, Consortium partners will work closely with any future health programs at that institution to develop appropriate Tech Prep college pathways for 12th grade completers of this model.

6. Describe the plans for on-going professional development between high school and higher education faculty.

The Health and Human Services Division at Columbus State will, as feasible, work with Tech Prep high school teachers to facilitate ongoing professional development for them along with relevant Columbus State faculty.

7. Provide a brief description of your consortium's plan for delivery of this Tech Prep Health Technology Program.

The Central Ohio Tech Prep Consortium has developed an innovative Tech Prep Health model, **Multi-Competency Health Technologies**. This model begins officially in grade 11 and concludes with a Tech Prep associate degree in Multi-Competency Health Technology at Columbus State Community College.

A unique feature of the program at the secondary level is its core-and-options approach (see the attached Competencies Outline), as follows:

Grade 11: Students take a required core of health technology competencies that are essential for entry into virtually any health-related career. Assessment of these technical competencies uses state or national tests, or nationally recognized certifications. All high schools offering this program must deliver these required competencies.

Grade 12: Students select three areas of concentration from an approved menu of 12 competency cluster options (e.g., Phlebotomy Technology, Community Health & Safety, etc.). Five of these options are equivalent to technical courses at Columbus State, and make use of state, national, or nationally recognized certifications. The remaining 7 competency clusters have been approved to enable schools to enhance employability in the industry immediately following high school graduation.

In addition to the three quarters of competency cluster options, seniors complete one quarter of independent study (i.e., mentorship/internship at a health-based worksite, senior project, or college technical coursework via Post-Secondary Enrollment Options). Because of the model's multi-competency approach, the range of potential mentorship/internship placement opportunities is extensive, and could include hospitals, clinics, home health care organizations, physicians' offices, nursing homes and extended care facilities, pharmacies, nonprofit organizations such as the Red Cross, government agencies such as Veterans' Administration facilities, and so forth.

Although the Consortium model defines a menu of 12 competency cluster options for the senior year, individual high schools are required to offer only 3 (of their own choice), plus 1 quarter of independent study, although they may elect to offer a wider range of the approved options.

In the postsecondary part of the Tech Prep model, matriculating students will bypass any Columbus State courses in the Multi-Competency Health Technology associate degree program whose competency requirements they have met as part of

the approved secondary program. In place of those courses, matriculating students will be counseled on an individual basis to take advanced skills courses that are part of the Tech Prep option for the Multi-Competency Health Technology associate degree.

QUESTIONS 5 & 6 FROM PROGRAM APPLICATION FORM

5. Enrollment in your current Tech Prep programs:

CONSORTIUM NOTE: THIS HAS BEEN REPORTED SEPARATELY

11th _____
12th _____
1st year AD _____
2nd year AD _____
APP _____

6. Is a copy of each curriculum pathway of your current Tech programs available in the coordinator's office?

Yes ____✓____ No _____

HEART of OHIO TECH PREP CONSORTIUM

RESPONSE TO THE RECOMMENDATIONS OF THE STATE AD HOC TECH PREP COMMITTEE FOR HEALTH TECHNOLOGIES

June 1996

The Central Ohio Tech Prep Consortium has developed an innovative Tech Prep Health model, **Multi-Competency Health Technologies**. This model begins officially in grade 11 and concludes with a Tech Prep associate degree in Multi-Competency Health Technology at Columbus State Community College.

A unique feature of the program at the secondary level is its core-and-options approach (see the attached Competencies Outline), as follows:

Grade 11: Students take a required core of health technology competencies that are essential for entry in virtually any health-related career. Assessment of these technical competencies uses state or national tests, or nationally recognized certifications.

All high schools offering this program must deliver these required competencies. A panel of health industry representatives confirms that students who complete this required core are employable in a range of entry-level health industry jobs (e.g., nurse's aide, physician's office receptionist).

Grade 12: Students select three areas of concentration from an approved menu of 12 competency cluster options (e.g., Phlebotomy Technology, Community Health & Safety, etc.). Five of these menu options are equivalent to technical courses at Columbus State, and make use of state, national, or nationally recognized certifications. The remaining 7 competency clusters are available to enhance employability in the industry immediately following high school graduation.

In addition to the three quarters of competency cluster options, seniors complete one quarter of independent study (i.e., mentorship/internship at a health-based worksite, or college technical coursework via Post-Secondary Enrollment Options).

Although the Consortium model defines a menu of 12 competency cluster options for the senior year, individual high schools are required to offer only 3 (of their own choice), although they may elect to more.

In the postsecondary part of the Tech Prep model, students may bypass any Columbus State courses in the Multi-Competency Health Technology associate degree program whose competency requirements have been met as part of the approved secondary program. In place of those courses, matriculating students will be counseled on an individual basis to take advanced skills courses that will be offered as part of the Tech

Prep option for the Multi-Competency Health Technology degree.

In addition, students who complete the secondary portion of the Tech Prep model will have met all (or nearly all) of Columbus State's requirements for admission to ITS FULL ARRAY (?) of health degree programs. To support and facilitate possible changes in students' career interests, Columbus State will also develop vocational-technical articulation agreements to that will enable Tech Prep Multi-Competency Health Technologies high school graduates to apply to other health degree programs (e.g., Nursing, Respiratory Technology, etc.), and -- because these degree programs do not have Tech Prep options -- to receive college credit-in-escrow for courses in the college health programs whose competencies have been mastered at the secondary level.

The remainder of this response addresses issues raised by the state ad hoc committee, for which specific recommendations have been made.

III.A. College Admission Criteria and Waiting Lists

Students enrolling in the Central Ohio Tech Prep Consortium's Multi-Competency Health Technologies program in grade 11 will automatically be considered applicants to Columbus State's Multi-Competency Health Technology degree program (Tech Prep option), and will be admitted to the college program (within 1 calendar year of high school graduation, assuming satisfactory completion of the secondary competencies) under whatever Multi-Competency Health Technology college program admission criteria were in force at the time of the students' high school junior year.

High school juniors enrolling in the Multi-Competency Health Technologies program will also be placed on Columbus State's Nursing program waiting list at the time they enter the Tech Prep program in grade 11.

Finally, because the Consortium is about to expand to include at least one additional college (Ohio University - Lancaster), the Consortium will work closely with any and all health programs, current or future, at that institution, to develop appropriate Tech Prep options or other kinds of opportunities for 12th grade completers of this model to continue their education.

III.B. Articulation, Accreditation, Certification and Licensure

The development process for the Multi-Competency Health Technologies Tech Prep model attended closely, from the beginning, to accreditation and certification requirements relevant to the program and program competencies. Assessment of student mastery of critical core technical competencies taught in grade 11 and options to be offered in grade 12 make use of state, national, or other nationally recognized certification instruments and procedures. All instructors of such content will be appropriately credentialed and prepared. The Health and Human Services Division at Columbus State will, as feasible, work with Tech Prep high school teachers to facilitate

ongoing professional development for them along with relevant Columbus State faculty.

IV.A. Managing the Labor Market

The Multi-Competency Health Technologies model is uniquely designed to prepare students for technical positions in the evolving health industry. Students completing the secondary portion of the program will, according to area health industry representatives (through an extensive labor market survey and an industry program validation process for program development), have a mastered core of patient care competencies and additional elective competencies to qualify them for an array of entry-level positions in the health care industry.

The postsecondary part of the program, the Tech Prep associate degree option in Multi-Competency Health Technology, will enable students to both broaden and deepen their skills as a multi-competent health technician that health industry representatives confirm is the area of greatest and most probable job growth in the evolving fields of health care. Columbus State health-related programs routinely monitor changes in the labor market through program advisory committees and other forms of intensive communication with the industry (e.g., with administration at clinical placement sites, active involvement with industry Boards, accrediting agencies, professional associations, and the like).

Finally, the Consortium will form a Tech Prep Multi-Competency Health Technologies Advisory Committee in the winter of 1997. This group will meet periodically to review program content and progress, support the program's continued growth and effectiveness, and advise Tech Prep educators about changing skill and employment trends in the industry.

IV.B. Limited Clinical Sites

Each high school that offers the Consortium's Multi-Competency Health Technologies model will be responsible for developing one-quarter "independent study" mentorship/ internship placements for seniors. Because of the multi-competency approach, however, the range of potential placements is greatly extended, and could include hospitals, clinics, home care, physicians' offices, nursing homes and extended care facilities, pharmacies, nonprofit organizations such as the Red Cross, government agencies such as Veterans' Administration facilities, and so forth. Alternatively, seniors' one-quarter requirement for independent study could also be fulfilled by taking a relevant college-level technical course at a local postsecondary institution through Post-Secondary Enrollment Options.